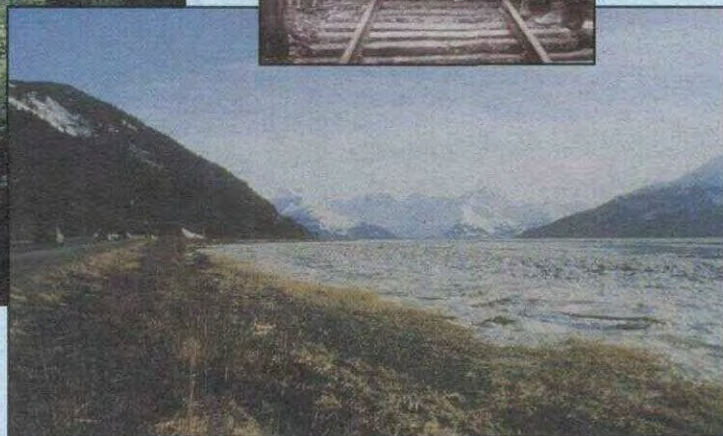
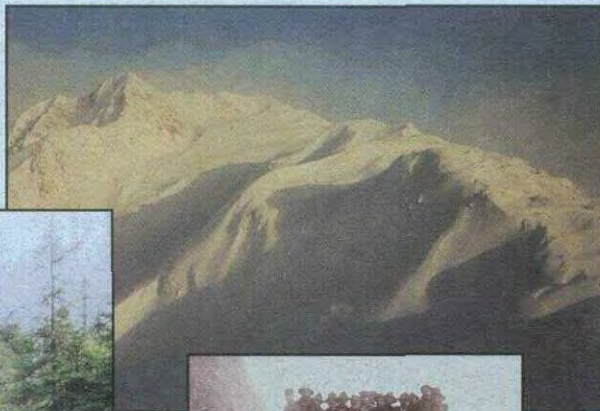
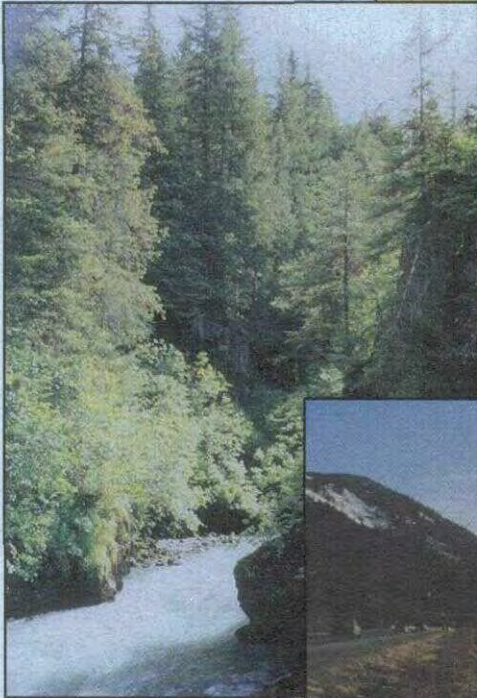


TURNAGAIN ARM MANAGEMENT PLAN

for State Lands

October 1994



Prepared by

Alaska Department of Natural Resources
Division of Land
Resource Assessment & Development Section



Alaska Department of
**NATURAL
RESOURCES**

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Front cover photos:

Top: Slopes above upper Glacier Creek.

Left center: Forest along Glacier Creek.

Right center: Seward track laying gang after the last rail was laid between Seward and Anchorage at Milepost 78, September 11, 1918. Photo courtesy Anchorage Museum of History and Art. AEC G912.

Bottom: Seward Highway and icy tidelands along Turnagain Arm, looking east toward Portage Valley.

This publication was released by the Department of Natural Resources, Division of Land, to inform the public about the Turnagain Arm Management Plan for State Lands, produced at a cost of \$18.52 per copy, in Anchorage, Alaska.

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PHOTO CREDITS

Contemporary photographs appearing in the Turnagain Arm Management Plan are from the Resource Assessment & Development Section's photo files. Historical photographs are provided by the Anchorage Museum of History and Art. Credits for historical photos:

Front cover and Chapter 2, page 2-8. Seward track laying gang after the last rail was laid between Seward and Anchorage at Mile 78, September 11, 1918. AEC G912.

Chapter 1, page 1-1. The Glacier Creek valley and the community of Girdwood in 1906. Odale Collection, Girdwood I 1906. B91.9.65.

Chapter 1, page 1-3. Trail and grade line visible along Turnagain Arm prior to railroad construction, early 1900's. Alaska Railroad Collection, P. S. Hunt. AEC G322.

Chapter 3, page 3-5. Railroad construction camp at Milepost 83, Bird Point, 1917. P. S. Hunt. AEC G608.

Chapter 3, page 3-29. Roof of snow shed covering railroad tracks at Milepost 75.5, October 12, 1919, looking east toward Portage Valley. Alaska Railroad Collection. AEC G1498.

CHAPTER 1

Introduction

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Chapter 1

INTRODUCTION



Courtesy Anchorage Museum of History & Art

The Glacier Creek valley and the community of Girdwood in 1906

PURPOSE OF THE PLAN

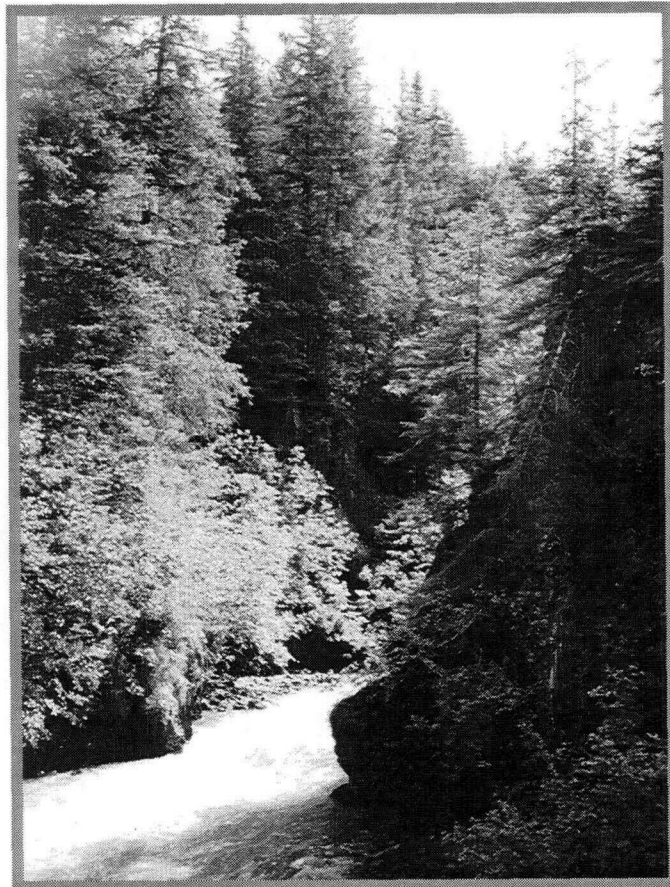
The State of Alaska owns, or will soon own, important land in the Turnagain Arm area, including uplands near Girdwood and Crow Pass, small parcels near the Seward Highway, and tidelands in the arm itself. The purpose of this plan is to determine how this land should be managed.

This land is very important to the residents of the State of Alaska and the state's visitor industry. Turnagain Arm's spectacular scenery, easy access, and close proximity to Alaska's major population center make it one of the most visited places in the state. Proper management of this state land is essential if Turnagain Arm is to continue to provide benefits to both residents and visitors.

State lands within the planning area are to be managed for multiple use. However, given the Turnagain Arm area's importance for recreation, wildlife, and the visitor industry, the primary uses for most state lands within the planning area are for recreation, tourism, and wildlife habitat. Although this does not mean that other uses cannot occur on these lands, other uses must be managed in a way that does not significantly detract from the primary uses.

The role of state land use plans was established by state statute (AS 38.04.005). It is the policy of the State of Alaska "...to establish a balanced combination of land available for both public and private purposes. The choice of land best suited for public and private use shall be determined through the inventory, planning, and classification processes..."

This plan determines management intent, land-use designations, and management guidelines that apply to all state lands, excluding Chugach State Park, in the Turnagain Arm planning area.



Forest along Glacier Creek

Coordination with the Municipality of Anchorage

As part of their municipal land entitlement, the Municipality of Anchorage will be receiving ownership of some state lands in the planning area. To ensure that both the state and the Municipality of Anchorage have compatible land management goals for these lands, the development of this plan was coordinated with the development of the Municipality's plan for their lands (the Girdwood Area Plan). Also, development on these state and municipal lands could impact the growth and development throughout Girdwood. As a result, both the Turnagain Arm Management Plan and the Girdwood Area Plan are compatible with each other, and should be viewed as companion documents. For example, while the Turnagain Arm Management Plan sets out management policies that address impacts from potential resort development on state lands and resources, the Girdwood Area Plan addresses the impacts of resort development on the community.

HOW THIS DOCUMENT IS ORGANIZED

- Chapter 1** Chapter 1 includes a brief description of the planning area, the reasons why a plan is necessary for the Turnagain Arm area, the types of decisions made by the plan, an introduction to the planning process and the agencies involved in developing the plan, and a brief description of plan implementation and modification.
- Chapter 2** Chapter 2 includes an overview of the goals and management guidelines that affect each major resource or type of land use throughout the planning area.
- Chapter 3** Chapter 3 includes management policies for the plan's five management units. The management units are geographic subdivisions of the planning area, and are further subdivided into subunits. For each management unit, there is a statement of management intent, management guidelines, a chart listing primary land uses and prohibited land uses, and a map.
- Chapter 4** Chapter 4 discusses specific actions necessary to implement the plan, including recommendations for additions to Chugach State Park, recommendations for state land selections, land use classifications, and mineral orders.
- Appendices** The Appendices offer a variety of support materials for the plan, including a glossary and an index.



Courtesy Anchorage Museum of History & Art

Trail and grade line visible along Turnagain Arm prior to railroad construction, early 1900's

DESCRIPTION OF THE PLANNING AREA

The Turnagain Arm planning area includes approximately 23,000 acres of state owned and state selected lands, and approximately 25,000 acres of state owned tidelands in the Turnagain Arm Area (see Figure 1-1 and Map 1-1). The southern boundary of the planning area coincides with the boundary of the Municipality of Anchorage, which runs down the middle of Turnagain Arm, and includes Portage Lake. The planning area abuts the Prince William Sound Area Plan to the East, and Chugach State Park to the North.

The planning area includes the communities of Rainbow, Indian, Bird, Girdwood, and Portage. Girdwood is the largest of these communities with a population of approximately 1,350. These communities are linked by the Seward Highway, which bisects the planning area and is one of the most traveled and scenic roads in the state.

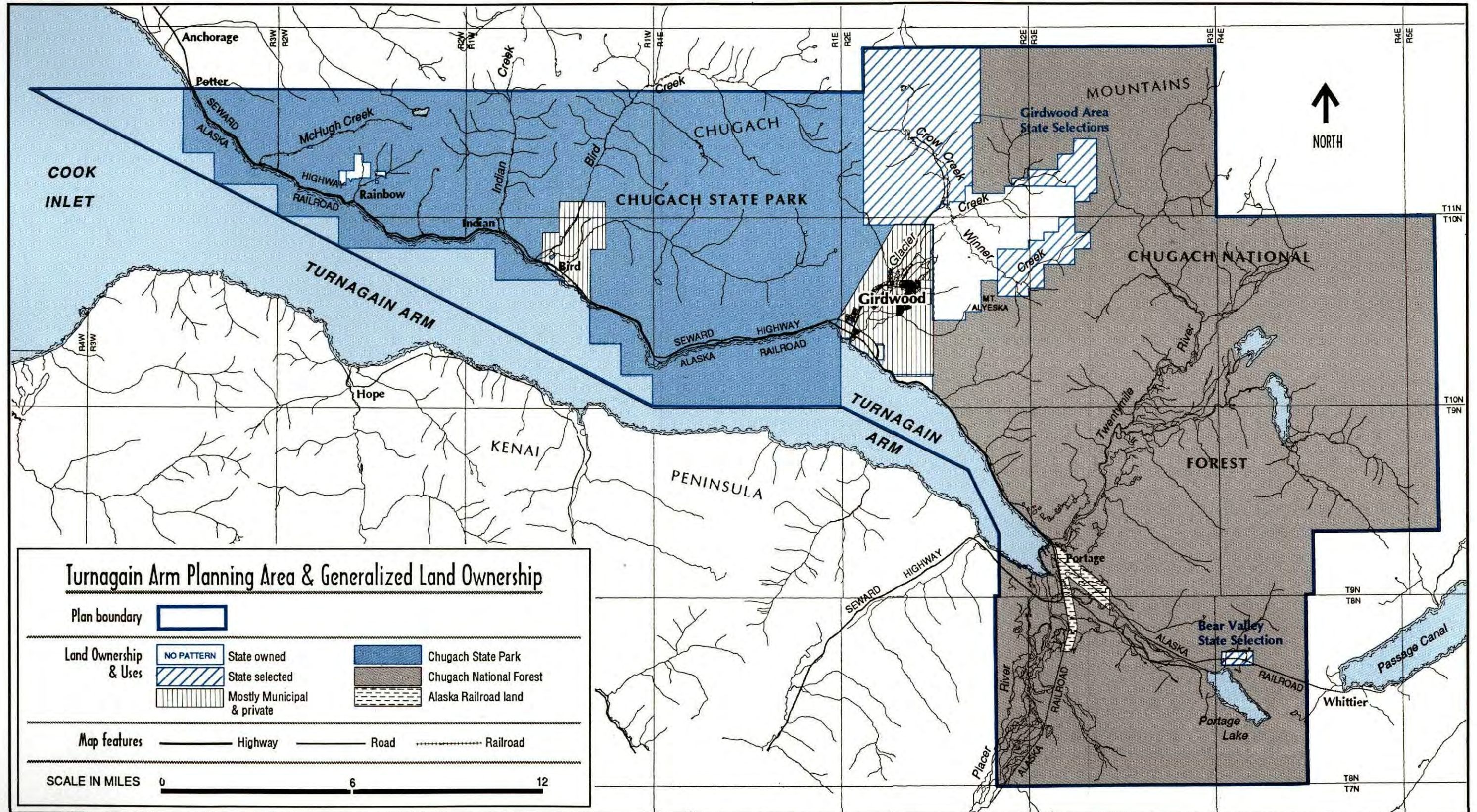
Most of the state lands in the planning area are in one block just north of Girdwood. This block includes the Glacier, Winner, and Crow creek drainages, the Crow Pass area, and Mount Alyeska. These lands were selected from Chugach National Forest lands as part of the state's National Forest Community Grant land entitlement. The land in the Crow Creek and Crow Pass area, and in the upper Winner and Glacier creek drainages has been selected by the state but has not been conveyed yet. The remaining land in this block has been conveyed to the state.

The planning area includes 320 acres of state selected land in Bear Valley, near Portage. The planning area also includes some isolated parcels of state land near McHugh Creek, Rainbow, Bird, and Girdwood.



Figure 1-1. Location of planning area

Map 1-1. Planning Area & Generalized Land Ownership



WHY THIS PLAN WAS DEVELOPED

The planning area is rich in natural resources. There are many different ideas about how these resources should be used or protected. Although some proposed uses may be in conflict with each other, many different uses can occur throughout the planning area while protecting vital resources, providing uses are responsibly managed.

Public land managers make decisions about land use, such as whether to allow commercial recreation development to occur, or whether to issue permits for roads or sand and gravel extraction. Managers need clear, consistent guidelines for their decisions. Land use plans establish long-range commitments for the use of public land and provide clear policies for public land management.

Land use plans can be valuable for private landowners. If the state is publicly committed to land use patterns and policies, private investors can make decisions about their own land. For example, if someone is contemplating developing a subdivision next to state land, it is important to know if the public land is likely to become a gravel pit or a recreation area.

WHAT DECISIONS ARE MADE BY THE PLAN

The Turnagain Arm Management Plan determines major land uses on state lands within the planning area. These uses are described in a management intent statement for each subunit of the plan. The plan also sets management guidelines and land use designations for each subunit.

The plan also identifies prohibited uses within each management unit. These are uses that will not be allowed in the management unit without amending the plan in an open public process.

Management Intent

The plan presents management intent that explains the Department of Natural Resources (DNR) overall resource management objectives for the management units and provides background information for land managers.

Management Guidelines

Most public lands are intended to be managed for multiple use. The plan establishes management guidelines that allow various uses to occur without serious conflicts. Management guidelines can direct the timing, amount, or specific location of different activities, making the allowed uses compatible.

Land Use Designations

The plan designates surface and subsurface uses for each management unit. Surface uses are designated primary if they are major surface uses; the unit will be managed to encourage its use, conservation or development.

Classifications

All state lands in the planning area will be classified consistent with the land use designations in this plan. Land use designations made by the plan are thereby officially established in state land status records. A table that shows how designations convert to classifications is located in Chapter 4.

WHAT THE PLAN WON'T DO

There are some important issues that are not addressed in this plan:

Non-DNR Land

This plan does not apply to municipal, private, university, federal, Mental Health Trust, or Department of Transportation & Public Facilities land. However, the plan does apply to the state-retained mineral estate, such as beneath land granted from the state to the municipality.

Fish and Wildlife

Allocation of fish and game stocks and regulating methods and means of harvest are the responsibility of the state boards of Fisheries and Game.

Short-Term Uses

This plan does not regulate activities that do not require a written authorization on state land, such as hiking, short-term camping, boating, hunting, and fishing.

Legislatively Designated Areas

This plan does not apply to Chugach State Park or the Anchorage Coastal Wildlife Refuge.

Decisions on Specific Applications

While this plan provides general management intent for state land, the plan does not make decisions about specific land-use authorizations. These decisions are made through the permit review process. Land-use authorizations must, however, be consistent with the plan, and existing laws and regulations.

**Actions by
Agencies
Other than DNR**

This plan does not provide management intent for prescribing actions and policies for agencies and governments other than DNR.

**Oil and Gas
Guidelines**

DNR's statewide policies for oil and gas are found in the Five-Year Oil and Gas Leasing program. Specific stipulations for oil and gas exploration, development, and production activities will be developed and applied on a case-by-case basis for each oil and gas lease sale using the lease sale process.

HOW THE PLAN WAS DEVELOPED

Because of the need to establish compatible management policies between the State of Alaska and the Municipality of Anchorage, the development of the Turnagain Arm Management Plan has been done as part of a coordinated planning effort between the two governments. Both planning processes have shared data collection responsibilities, public meetings, and a joint Community Advisory Board. As a result, the Municipality's Girdwood Area Plan is compatible with the state's plan, and should be viewed as a companion document.

The development of both the state and municipal plans is summarized in Figure 1-2. The first step was to collect data, including economic and demographic data on the community, community desires and aspirations, and data on the natural environment and ski area feasibility. Using this data, six land use alternatives were developed. These alternatives combined different levels of resort development with different community land use patterns. The alternatives were evaluated for their impacts to the environment and the community of Girdwood, and were then given public review. The draft plans were then developed, and given extensive public review before their adoption.

The Turnagain Arm Management Plan is the product of over two years of work by the Planning Team, Community Advisory Board, interest groups, and the general public. The Planning Team includes eleven representatives from state agencies, the Municipality of Anchorage, and the U.S. Forest Service (see page iii). The Community Advisory Board includes ten representatives from Girdwood and various municipal agencies and commissions (see page iv).

**Public
participation**

Public participation was an essential part of the planning process. During this planning process, twelve public meetings and workshops were held in Girdwood and Anchorage. In addition, over 200 people attended a seminar on resort development in Girdwood in October of 1992. This public involvement is summarized in separate documents available from DNR.

Throughout the planning process, members of the planning team and DNR staff met with representatives from communities in the planning area, and interest groups, to inform them of the plan's progress and provide them the opportunity to review resource data and plan proposals.

Information gathered at these meetings and the written comments were instrumental in identifying important issues, gathering data on local resource values, developing and evaluating land use alternatives, and shaping the draft plan.

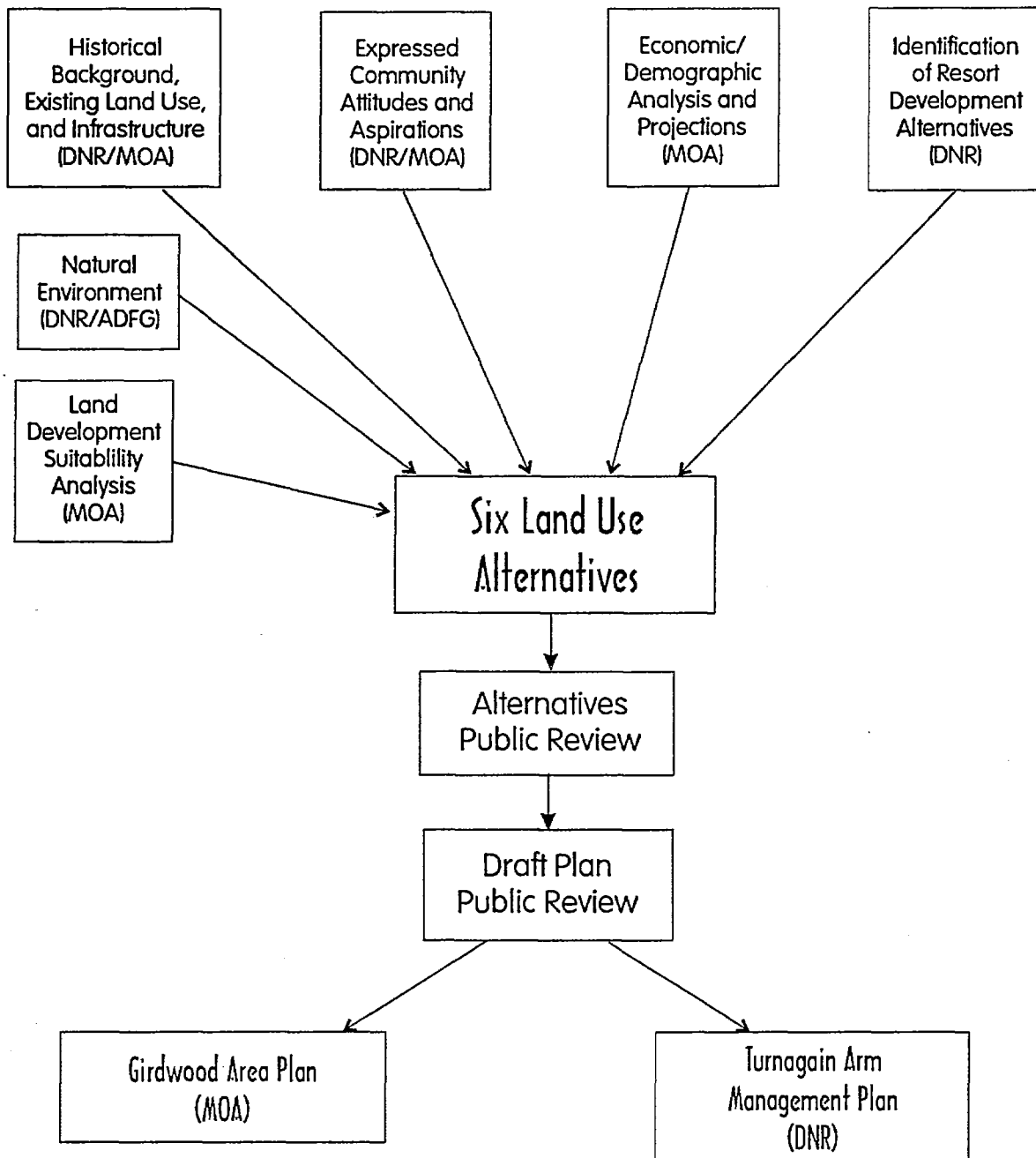
SUMMARY OF PLAN IMPLEMENTATION AND MODIFICATION

The plan is implemented through administrative actions such as leases, permits, land conveyances, classification orders, and mineral orders. The plan serves as the final finding for land classifications and mineral orders. Chapter 4 presents the details of plan implementation recommendations and procedures.

Economic and social conditions in Alaska and the planning area are sure to change and the plan must be flexible enough to change with them. The plan will be reviewed regularly to monitor progress in implementing the plan and to identify problems that may require amendment or modification.

Specific modifications may be made whenever conditions warrant them, though a request for these changes must follow certain procedures. The plan may be amended after approval by the Commissioner of DNR following public review and consultation with appropriate agencies. Special exceptions and minor changes must follow certain procedures. See ***Procedures for Plan Review and Changes*** in Chapter 4 for a more detailed description of plan modifications, amendments, special exceptions, and minor changes.

Figure 1-2:
Plan Development Process



CHAPTER 2

Areawide Land Management Policies

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Chapter 2

AREAWIDE LAND MANAGEMENT POLICIES



Forest glade near Winner Creek

INTRODUCTION

This chapter presents land management policies for each of the major resources or land management concerns affected by the plan. These policies apply to state land throughout the region, regardless of the land use designation.

The policies in this chapter consist of goals and management guidelines. Goals are the general condition the department is trying to achieve, and guidelines are specific directives that will be applied to land and water management decisions as resource use and development occur.

Some policies in the plan, such as those modified by the terms "feasible and prudent", "feasible", and "should" are written to allow exceptions if the condition in the policy are met. For more information, please refer to the definitions of these terms in Appendix A, and also to *Procedures for Plan Review and Changes* in Chapter 4.

CONSTITUTIONAL GOALS

The Alaska constitution sets forth the fundamental principle that guides land management for state land. It says, in part, that

"It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest."

"The legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people."

"The legislature may provide for the leasing of, and the issuance of permits for exploration of, any part of the public domain or interest therein, subject to reasonable concurrent uses."

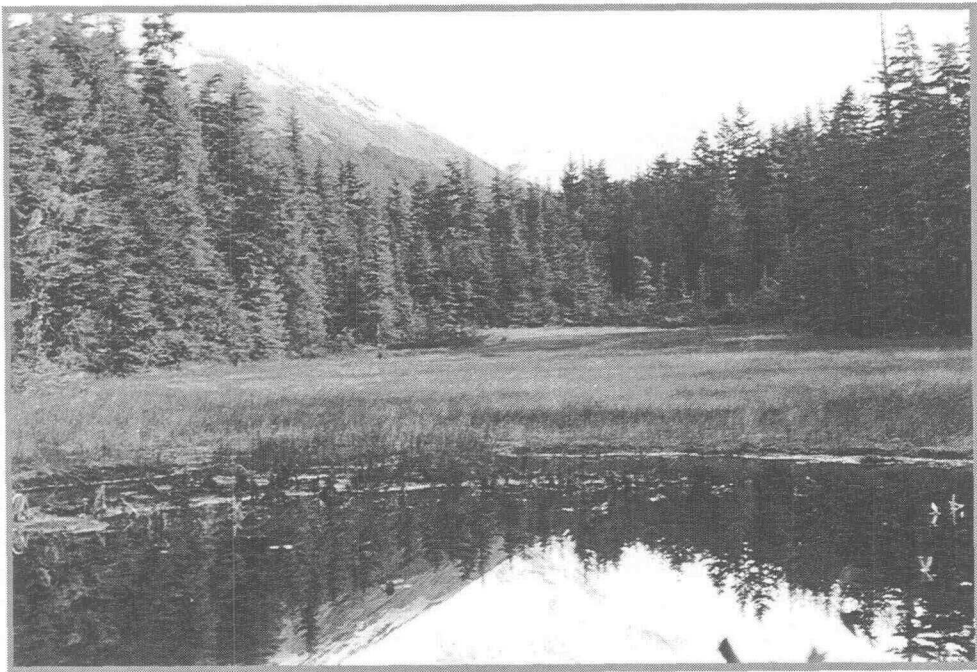
"Free access to the navigable or public waters of the State...shall not be denied..., except that the legislature may by general law regulate and limit such access for other beneficial uses or public purposes".

Free public access to state land is an important goal that applies equally to all state land regardless of geographic location. Included in the idea of free public access is a concept called the "public trust doctrine". The public trust doctrine means the state has a special responsibility to make sure that state-owned tidelands, shorelands and submerged lands are available to the public for navigation, commerce, recreation, and other related uses.

FISH AND WILDLIFE HABITAT

GOALS

The Turnagain Arm Management Plan will protect the habitat values of sufficient suitable lands and waters to provide for the habitat needs of fish and wildlife resources necessary to maintain or enhance public use and economic benefits. Human use, harvest, and viewing of fish and wildlife is important to the quality of life and to the recreation and tourist industry in this region.



Pond and meadow bordering forest near Girdwood

MANAGEMENT GUIDELINES

a. Mitigation

When issuing permits or leases, or otherwise authorizing the use or development of state lands, the Department of Natural Resources (DNR) will recognize the requirements of the activity or development and the benefits it may have to habitat when determining stipulations or measures needed to protect fish and wildlife or their habitats. The costs of mitigation relative to the benefits to be gained will be considered in the implementation of this policy.

Chapter 2. Areawide Land Management Policies

All land use activities should be conducted with appropriate planning and implementation to avoid or minimize adverse effects on fish and wildlife or their habitats.

The departments will enforce stipulations and measures, and will require the responsible party to remedy any significant damage to fish and wildlife or their habitats that may occur as a direct result of the party's failure to comply with applicable law, regulations, or the conditions of the permit or lease.

When determining appropriate stipulations and measures, the department will apply, in order of priority, the following steps. Mitigation requirements listed in other guidelines in this plan will also follow these steps:

- (1) Avoid anticipated, significant adverse effects on fish and wildlife or their habitats through siting, timing, or other management options.
- (2) When significant adverse effects cannot be avoided by design, siting, timing, or other management options, the adverse effect of the use or development will be minimized.
- (3) If significant loss of fish or wildlife habitat occurs, the loss will be rectified, to the extent feasible and prudent, by repairing, rehabilitating, or restoring the affected area to a useful state.
- (4) DNR will consider requiring replacement or enhancement of fish and wildlife habitat when steps 1 through 3 cannot avoid substantial and irreversible loss of habitat. The Department of Fish and Game (ADF&G) will clearly identify the species affected, the need for replacement or enhancement, and the suggested method for addressing the impact. Replacement or enhancement of similar habitats of the affected species in the same region is preferable, DNR will consider only those replacement and enhancement techniques that have either been proven to be, or are likely to be, effective and that will result in a benefit to the species impacted by the development.

Replacement or enhancement will only be required by DNR if it is determined to be in the best interest of the state either through AS 38.05.035(e) or permit review process. Replacement may include structural solutions such as creating spawning or rearing ponds for salmon, creating wetlands for waterfowl, or non-structural measures such as research or management of the species affected, legislative or administrative allocation of lands to a long-term level of habitat protection that is sufficiently greater than that which they would have otherwise received.

b. Activities that Impact Fish and Wildlife Habitat

Types of activities known to negatively impact fish and wildlife habitat that should be considered when evaluating a proposal include:

- (1) Reduction in the quantity, quality, or variety of food items available.
- (2) Introduction of animals (wild or domestic) that might lead to the transmission of diseases, increased predation, or harassment.
- (3) Creation of barriers to movement, either physical or behavioral.
- (4) Harassment or disturbance to animals causing: a) movement from areas rich in food resources to less desirable habitat; b) increased stress or energy expenditures, thereby reducing the survival of the animal; or c) abandonment of young.
- (5) Interactions with humans that are likely to increase illegal hunting or killings in defense of life and property.
- (6) Reduction in the quality or availability of water supply.

c. Threatened and Endangered Species

A review of the current Federal and State lists of Threatened or Endangered species indicates that there are no known Threatened or Endangered species likely to utilize the planning area. There are several species likely to utilize the planning area that are listed as ADF&G Species of Special Concern. These include Olive-sided flycatcher, Townsend's warbler, and Blackpoll warbler (all uncommon summer residents and rare spring migrants); and Cook Inlet beluga whale (an occasional visitor along Turnagain Arm). A Species of Special Concern is administratively identified by ADF&G to include any species or subspecies of fish or wildlife native to Alaska which has entered a long-term decline in abundance or is vulnerable to a significant decline due to low numbers, restricted distribution, dependence on limited habitat resources, or sensitivity to environmental disturbance.

Activities that potentially affect bald and golden eagles will be consistent with the federal Eagle Protection Act as amended in 1978.

d. Aircraft Noise

Any helicopter skiing, or other aircraft activity that requires DNR authorization shall route the aircraft to minimize or avoid noise impacts to wildlife. Of particular concern are goat concentration areas. See also *Recreation Guideline c* in this chapter.

FOREST RESOURCES

Forests on state lands within the planning area are primarily coastal forests. These forests are composed of the black cottonwood-willow, western hemlock, and western hemlock-Sitka spruce forest types. They are typical for Pacific Northwest coastal forests along the Gulf of Alaska. Western hemlock is the predominant species in most of the area. Black cottonwood occupies the riparian areas, particularly on large stream bars.

GOALS

1. Maintain the forest as the dominant ecosystem on the mountain slopes and valley floors to retain the forested characteristic of the area.
2. Maintain forest health at an appropriate level for the age, composition, and spatial distribution of the existing climax forest types typical for local topographic and climatic conditions.
3. Retain the maximum forest coverage in major development sites and require designs of development facilities which emphasize and enhance the aesthetic values of the forest.

MANAGEMENT GUIDELINES

a. Utilization of Forest Resources

Primary forest resources of the planning area are recognized to provide service and amenity benefits such as scenic vistas, wildlife habitat, and recreation opportunities. Forests in the planning area will also provide round wood for handicrafts, firewood, rustic fences, etc., floral greenery and wild berries. Wood products from public lands will generally come from trees felled during construction activities and ski slope development, and perhaps to the occurrence of natural events such as windstorm or avalanche. Timber harvest is incidental to other uses of the forest. Forest management for the production of logs for further manufacture is not proposed for the planning area. Recreation use of the forest is expected to predominate throughout the life of the plan.

b. Timber Removal

To the extent possible, tree cutting as a result of construction activities and ski slope clearing and maintenance will be minimized. The Division of Forestry will determine if felled trees should be disposed of on-site or removed from the site.

- (1) Commercial timber harvest. The Division of Forestry may sell timber that needs to be removed as a result of building and road construction and ski trail clearing and maintenance.
- (2) Personal use timber harvest. If timber is being removed as a result of building and road construction or ski trail clearing and maintenance, some of this timber will be made available for local personal-use.
- (3) When clearing standing trees for ski trails, islands of trees should be left wherever possible. Uncut areas should have thinned, "feathered" edges and provide uneven, irregular or curvilinear edges with the ski slope.
- (4) Disposal of slash. Unharvested tops and limbs of felled trees must be cut into lengths of less than 4 feet and scattered on the site. In some cases slash will be piled and burned.
- (5) As part of the developer's revegetation plan (see ***Resort Development Guideline 3*** in this chapter), the developer will work with the DNR Division of Forestry to identify areas to be cleared, appropriate methods of clearing and disposal of timber and slash, and means of maintaining or improving the health of the areas to be left as forest.

c. Insect & Disease Control

The Division of Forestry will monitor forest conditions in order to detect insect or disease occurrences. Response to any occurrence will be developed as appropriate to maintain forest health as funding is available and regulations allow.

d. Additional Guidelines

For additional guidelines relating to Forestry, see ***Resort Development Guidelines 3 and 4*** in this chapter.

HERITAGE RESOURCES

GOALS

The Alaska Historic Preservation Act, AS 41.35, establishes the state's basic goal: to preserve, protect, and interpret the historic, prehistoric, and archaeological resources of Alaska.



Courtesy Anchorage Museum of History & Art

The last rail between Seward and Anchorage was laid in September 1918.

MANAGEMENT GUIDELINES

a. Heritage Resources Identification

Identify and determine the significance of all cultural resources on state land through:

- (1) Heritage resources surveys conducted by Division of Parks and Outdoor Recreation (DPOR) personnel.
- (2) Research about heritage resources on state land by qualified individuals and organizations.
- (3) Cooperative efforts for planned surveys and inventories between state, federal, local, or Native groups.

b. Heritage Resources Protection

Protect significant heritage resources through the following actions:

- (1) As part of the agency review process, the Office of History and Archaeology within DPOR reviews authorizations for potential conflict with heritage resources. The office determines if there may be an adverse effect on heritage resources and makes recommendations to mitigate those efforts.
- (2) Cooperating with concerned government agencies, Native corporations, statewide or local groups, and individuals to develop guidelines and recommendations to avoid or mitigate identified or potential conflict.

c. Public Education

Historic sites should be evaluated for their interpretive value. Where suitable, interpretive signs or board displays may be erected on heritage sites for the purpose of providing public education or to enhance tourism opportunities.

RECREATION

GOALS

The Turnagain Arm Management Plan will encourage providing access to state land for a wide variety of public uses, such as camping, berry picking, hunting, hiking, and fishing. The plan will support economic development in tourism by allowing use of state land for commercial recreation leasing. The plan will also provide opportunities for other recreational activities, such as backcountry hiking and cross country skiing.



Winner Creek Trail bridge

MANAGEMENT GUIDELINES

a. Commercial Recreational Facilities on State Land

Lodges, tent camps, or other private facilities designed as private recreational facilities will be permitted or leased where allowed by this plan, and where:

- (1) Commercial recreation development adds to or enhances available recreation opportunities.
- (2) The commercial facility and the use it generates will minimize significant negative impacts on the amount and quality of existing uses, including fish and wildlife harvest. It is recognized that a quantitative determination of the effects of the proposed facility will rarely, if ever, be possible, but an assessment of the impacts should use available information from DNR, ADF&G, or other appropriate sources.
- (3) The facility will be sited, designed, constructed, and operated in a manner that minimizes conflict with natural values and traditional uses of the area.
- (4) The facility will be sited and designed in accordance with the other guidelines in this plan.

b. Recreational Mining

Recreational mining is not a subsurface use under State Mining Law. A party proposing to conduct recreational mining on state land on a commercial basis must procure a permit or lease from the Division of Land. Location of a mining claim is not necessary to conduct recreational mining activities. However, if the location proposed by the applicant is on a claim and the applicant is not the claimholder, an agreement with the claimholder must be reached prior to receiving a lease from the Division of Land. The lease or permit will require concurrence by the Division of Mining & Water Management prior to issuance by the Division of Land to ensure that the surface use involves a minimal conflict with the subsurface. If the area applied for is not subject to a mining claim or lease, the Division of Mining and Water Management will review as on other proposed surface applications. Holding a mining claim does not give that locator a preference right for a surface lease or permit.

c. Aircraft Operations

Before any helicopter skiing, or other aircraft activity that requires authorization from DNR to operate will be approved, measures to address and minimize noise and other impacts must be developed. Examples of such measures are location, flight routes, flight altitudes, times of operation, and other limits on operations. The operator must complete an aircraft operations plan that explains what measures will be taken to minimize these impacts. This aircraft operations plan must be approved by DNR before aircraft operations for commercial recreation purposes are allowed.

d. Commercial Snowcat/Helicopter Skiing

- (1) The operator must have an operations plan, as outlined in **Guideline e** below, describing the commercial activity in detail.
- (2) If trail clearing is necessary, vegetation removal and terrain modification will be kept to a minimum. Measures will be taken to minimize erosion. The operator will show, to DNR's satisfaction, that the operator's trail use will minimize conflicts with other trail users.
- (3) Only one operator will be permitted to use a delineated permit area.
- (4) Because the permit area will remain open to the general public, use of explosives or other avalanche control methods is discouraged. Under certain conditions, and if specifically approved by DNR, explosives may be used. Procedures for avalanche control and for the use of explosives must be included in the Operations and Safety Plan, as stated in **Guideline e (7)-(9)** below.
- (5) The delineated permit area, including any cleared trails, will remain open to general public use. The operator must consider the safety of the general public that may be affected by the operator's activities. For safety reasons, the operator may close an area to the general public, if specifically approved by DNR. The operator must first document the danger involved with the area remaining open to general public use. (AS 38.05.850 & 11 AAC 96.040)
- (6) The operator will require that all clients wear appropriate avalanche beacons while engaged in the commercial activity.
- (7) DNR will consult with ADF&G during planning and authorization of commercial snowcat or helicopter skiing operations.

e. Operations and Safety Plan

An operations and safety plan will be required for winter commercial operations such as fly-in skiing, snowcat skiing, guided backcountry skiing/mountaineering, and ski area development. (The commercial operator will make responsible, consistent efforts to comply with provision of the Operations and Safety Plan, to determine the extent of safety hazards and take steps to reduce these hazards.) The operations and safety plan will include, but is not necessarily limited to:

- (1) Outline of the Operator's Company Organization. This outline will include internal job responsibilities and external support groups or personnel.
- (2) Avalanche Hazard Evaluation and Forecasting. The operator will identify the runs to be used, the degree of hazard, and method of accumulating data on avalanche conditions. It is recommended that the operator use an expert with several seasons of paid, full-time experience in one or more of these areas: hazard evaluation, mitigation and control, forecasting with snow specialist background.
- (3) Daily Operating Outline. This outline must include the following: how the operation will proceed in low, moderate, and high avalanche hazard periods; go/no-go procedure; client orientation (rescue procedures, use of beacons, snowcat/helicopter safety, skiing procedure-ie. group control); and terrain evaluation (written description of ski runs including names or identifying numbers, characteristics of each run, ground cover, elevation, gradient and avalanche history). This information should be depicted on a detailed topographic map, aerial photo or comparable illustration. The daily operating outline should also include a description of how the daily snow safety analysis is conducted.
- (4) Mobilization plan in case of accident or avalanche.
- (5) Radio and dispatch ability, including a communication plan for transferring information from base station to guides and snowcat/helicopter pilot.
- (6) Contacts with weather service and qualified personnel checks for weather and snow conditions during operations.
- (7) Identification of mitigation methods such as periodic closure of operations, structural control, explosive control, or other appropriate measures.
- (8) Safety procedures for avalanche control, including specific methods to protect the operator's staff, clients, and general public from control methods and resulting avalanches. Procedures should include methods to ensure avalanche starting zones, paths, and runout zones are free of personnel during control activities.
- (9) Safety and operational procedures for handling explosives, and statement of qualifications for all personnel involved in the use of explosives.

- (10) Guides(s) or ski safety patrollers at a minimum should have emergency trauma training as well as knowledge and training of avalanche safety precautions and rescue techniques. The qualifications of the guides and their training must be documented and submitted with permit application.
- (11) Emergency procedures including the location and type of supplies. These procedures should address contingency plans for skiing accidents, avalanches and snowcat or helicopter accidents. Supplies should include provisions for rescues, first aid, and client comfort. Key personnel should be trained in the use of these supplies.
- (12) Need for and location of any on-site improvements such as snow depth markers, reference poles, temporary shelters, trail routes, helispot markings, etc.
- (13) Permits and approvals already secured or to be obtained from other agencies or land managers.

f. Public Use Cabins

DNR will only build and manage public use cabins if there are adequate funds available to construct cabins or upgrade trespass cabins, as well as maintain and operate the facilities. Agreements may be made with recreational or other service groups for construction, maintenance, and operation of public cabins.

Existing unauthorized cabins in these areas may be evaluated by the Division of Land for possible conversion to public-use cabins.

On-site analysis by DNR, in consultation with ADF&G, will be required prior to construction or conversion of a public use cabin. If a cabin becomes difficult to manage, DNR may remove it.

Cabins above timberline will be sited to minimize visual impacts and damage to alpine vegetation.

RESORT DEVELOPMENT

The guidelines in this section apply only to commercial recreation or resort development on state land in Management Unit 3. There is a strong likelihood that any major resort development in the planning area will be partially on land owned by the Municipality of Anchorage. Some of the guidelines in this section may not be relevant (they may be directed at an activity, such as development of resort base facilities, that may occur only on municipal land).



Skiers on the Glacier/Winner Creek massif looking southwest toward Girdwood and Turnagain Arm

GOALS

To allow development of a ski area/four-season destination resort in a uniquely Alaskan setting, while maintaining a high quality natural environment and protecting the character and lifestyle of the Girdwood community.

MANAGEMENT GUIDELINES

1. PROCESS

a. Request for Proposals Process

The process by which DNR will solicit and select proposals for resort development will be consistent with AS 38.05.073.

- (1) **Municipal Coordination.** DNR will coordinate the development of its Request for Proposals (RFP) with the Municipality of Anchorage. DNR and the Municipality of Anchorage should combine their RFPs into one overall RFP for the entire resort area.
- (2) **Public Meetings.** Information on the RFP will be made available to the public, and a minimum of one public meeting will be held in Girdwood prior to issuance of the RFP.
- (3) **Community Involvement.** The Girdwood Board of Supervisors will be provided the opportunity to provide input on the development of the RFP. A representative from the Girdwood Board of Supervisors will be included in the RFP selection team.
- (4) **Criteria for Evaluating Resort Development Proposals.** The RFP will contain criteria for evaluating proposed recreational uses which may be proposed by the developer. The goal is to allow development of a ski area/four-season destination resort in a uniquely Alaskan setting, while maintaining a high quality natural environment and protecting the existing character of the Girdwood community. The intent is not to preclude consideration of an application from a local ski club or small operator.

b. Lease Development

- (1) **Public Meetings.** Information on the proposed development and its impacts will be made available to the public, and a minimum of one public meeting will be held in Girdwood during the development of the lease.
- (2) **Community Involvement.** The Girdwood Board of Supervisors will be provided the opportunity to provide comments on the lease terms and conditions.
- (3) **Social, Environmental, and Economic Impacts.** A preliminary decision regarding a potential lease for four-season resort development must include a statement of the potential social, environmental, and economic impacts of the proposed development, as stated in AS 38.05.073(h)5.

When evaluating the social impacts of the proposed resort development, DNR and/or the prospective developer, in consultation with the Municipality

of Anchorage and the community of Girdwood, will analyze impacts to the community of Girdwood, taking into account the impacts from the new Alyeska Prince Hotel and other expansion at the Alyeska Resort.

- (4) Economic Feasibility Study. For a large project with significant effects or impacts, the developer will conduct an economic feasibility study for the proposed resort development as stated in AS 38.05.073(i).

c. Master Development Plan

- (1) Master Development Plan. The developer will prepare a Master Development Plan (MDP). The MDP will contain a graphical and narrative description of development goals and guidelines, company objectives and priorities, permit and development boundaries, land ownership, existing and proposed facilities, existing and proposed activities and uses, capacities, architectural and signing themes, long-term treatment of vegetation, phases of development, mitigation measures, and rationale for development.
- (2) Community Involvement. The community of Girdwood will be involved in the review of the MDP and amendments to the MDP.
- (3) Public Meetings. The developer will conduct a minimum of one public meeting in Girdwood for the purposes of reviewing and discussing the proposed MDP and significant amendments, as determined by DNR, to the MDP which change the character of the plan.

2. RESORT AND RECREATION DEVELOPMENT

a. Resort Design Guidelines

- (1) Resort Design. A goal of resort design is to provide a unique or distinct atmosphere, and to allow visitors the possibility of forming an identity with their surroundings.
 - (a) The overall objective in locating roads and grouping buildings is to define an integrated, cohesive village so that views of the resort from the mountain and off-site locations present a well-organized village that blends with its natural surroundings.
 - (b) The architectural style, colors, textures, and forms of developments will complement the natural features or historic character of the area.
 - (c) The resort design should include enough provision for pedestrian circulation so that there is minimal need for the use of a car or other mechanized transportation. Resort facilities should be grouped closely together to facilitate foot access.

- (2) Mountain Design.
 - (a) Ski-related facilities should be located so that they take full advantage of natural site contours with a minimum amount of slope or trail grading.
 - (b) The developer should provide the rationale for the mountain design when submitting plans for approval. Plans should include an analysis of snow and wind conditions and ski terrain suitable for different skier ability levels. Plans should also include a description of the interrelationship of the proposed lift system and the planned trail system, and show how lifts will be placed relative to capacity balance with the trail system, visibility, wind, avalanche hazard areas, and icing potential. Plans should also describe any skier service and resort support structures.
- (3) Open Space. As much of the area as possible should be left in natural open space in order to provide a natural, tranquil setting for the resort and habitat for wildlife.
- (4) Roads and Service Trails. Locate, design, and construct roads and service trails so as to minimize terrain modification and visibility from within and outside the management unit.
 - (a) To the extent possible, avoid placing roads and service trails on highly-visible alpine slopes. Where this is not possible, proposed roads and service trails should be located where they will be least visible.
 - (b) To the extent possible, locate roads and service trails to avoid areas of excessively steep slopes, unstable soils, and steeply-sloping side gullies. For roads and service trails that must be located on hazardous or unstable terrain, the developer will conduct an analysis of alternatives and technical feasibility.
 - (c) The design of the road and service trail system should include drainage structures, erosion control, and terrain stabilization and restoration plans.
 - (d) Reducing Traffic Impacts. The developer should evaluate alternatives including the use of mass transit, for reducing automobile traffic to the resort in order to minimize the impact of increased resort traffic on the local and regional road system. The developer, in consultation with affected state agencies and the Municipality of Anchorage, should implement appropriate measures to reduce resort-generated traffic on the local and regional road system, including the Seward Highway.

- (5) **Parking.** When designing parking lots to serve resort facilities, the developer should consider efficient traffic patterns, minimize conflicts between vehicles and pedestrians, provide adequate visitor drop-off, handicap access, and provide adequate visitor information. Parking and access will be designed to mitigate visual impacts and reduce land consumption to the extent possible. Underground or covered parking areas should be considered.

b. Recreational Development Guidelines

- (1) **Motorized Trail Use.** The developer may close trails within the lease area to motorized use for safety, security, and operations purposes, with the consent of DNR.
- (2) **Trail Development And Management** (for trails other than alpine ski trails). It is recommended that the developer include and maintain a variety of non-motorized trails within the lease site to serve both resort guests and local residents. The developer should consult with DNR's Division of Parks & Outdoor Recreation, the Municipality of Anchorage, and other knowledgeable local groups (e.g., Girdwood Trails Committee, Nordic Ski Association), in trail planning and design. Access to the trail system should be convenient for local residents and tie in with other public trails where possible and be available to the general public.
 - (a) **Design Standards.** Trail design should ensure safe, scenic, and enjoyable recreational experiences for a variety of winter and summer users. The developer should follow trail development standards in the Alaska State Trails Plan or other equivalent sources. The trail system should be located and designed to minimize impacts on fish, wildlife, and vegetation.
 - (b) **Route Selection.** Trails should be located and designed to blend harmoniously with the natural topography and vegetation. The trail system should include both loop trails and some longer destination routes. Trails should avoid avalanche areas.
 - (c) **Alpine Zones.** Trails and lookouts in heavy use areas in the alpine zone should be planned to minimize damage to alpine vegetation. Foot traffic should be directed to established trails.
 - (d) **Trail Clearing.** Large trees should be cut only where it is impractical to route the trail around them.
 - (e) **Equestrian Trails.** Equestrian trails should have appropriate surfacing to prevent deterioration of the trail. Grades should be moderate, especially where winter use is anticipated. Trails will not be located in sensitive alpine terrain. Trails should generally avoid wet areas unless appropriate surfacing or bridging is provided. Horse trails should be separated from other types of trail use.

Horse facilities, including corrals, should be located where streams will not be contaminated, and be compatible with other proposed trail and wildlife use of the area.

- (f) Sled Dog Trails. This use should be separate from ski trails. Sled dog trails are recommended to serve both local users and to provide a uniquely Alaskan experience to visitors to the resort.
 - (g) Cross-Country Ski Trails. Development of a cross-country ski trail system is highly recommended.
 - (h) Hiking Trails. The developer should consider foot trails for a variety of uses such as hiking trails, wildlife viewing, nature trails, and running trails. The developer should consult with Division of Parks & Outdoor Recreation regarding standards for these trails.
 - (i) Bicycle Trails. The trail system should include trails for mountain bikes. The developer should include a bike path separated from the roadway if motor vehicle traffic on the roadways will be fairly extensive and it is feasible.
 - (j) Snowmachine Trails. If snowmachine trails are to be built, they should not be shared by non-motorized users, they should be sited to provide as much buffer as possible from noise, and should be built wide enough to safely accommodate this activity (See Alaska Trail Plan standards).
- (3) Sledding. Consider adding a sledding hill near the resort housing area.
 - (4) Backcountry Access. Backcountry access should be provided from the lifts both in winter and summer, where safe and appropriate.
 - (5) Wildlife Viewing. Wildlife viewing should be considered as a resort activity. Refer to the ***Fish and Wildlife Guidelines*** in this chapter.
 - (6) Public Information Station. DNR may require inclusion of a contact station for DNR to provide information about public lands to visitors.

c. Public Safety

- (1) Operations and Safety Plan. The developer must have an Operations and Safety plan as outlined in the ***Recreation Guidelines*** in this chapter.
- (2) Earthquake Response Plan. The developer must have an earthquake response plan.

3. REVEGETATION AND EROSION CONTROL

a. Minimize Vegetation Removal

The removal of vegetation shall be kept to a minimum and areas requiring disturbance should be seeded or planted with appropriate species as soon as possible after disturbance. To the extent possible, the underlying vegetation along the ski courses should be left intact in order to retain slope stability and control erosion.

b. Use Minimal Impact Construction Methods

Minimal impact construction, i.e., use of hand tools and ground crews instead of heavy machinery, use of helicopters for setting lift towers in place, etc., should be practiced to the extent feasible to minimize impacts on vegetation and soil, and to prevent erosion problems.

c. Leave Islands of Native Vegetation

Where possible, islands of native vegetation should be left undisturbed within areas where vegetation is removed. Islands should be large enough to be stable and effective in maintaining a natural landscape.

d. Snow Storage on Surfaced Areas

Snow piles should be placed away from streams and drainage corridors to prevent direct deposition of materials into streams. Snow storage areas should be designated and designed to retain desirable vegetation and to prevent increased erosion.

e. Stockpile Topsoil

To increase revegetation success, topsoil should be stockpiled and redistributed on the disturbed areas whenever possible. This is particularly critical in alpine areas where the topsoil layer is thin.

f. Transfer Sod

Another revegetation method that should be considered where appropriate is the reintroduction of topsoil and plants to a disturbed site by moving, either by hand or with equipment, a section of sod from an area that is going to be disturbed, to the revegetation site.

g. Minimize Damage

To minimize damage to soils and tree root systems, the clearing of vegetation for ski runs and/or trails in alpine and subalpine areas should be accomplished by low ground pressure equipment to the maximum extent possible.

h. Revegetation and Erosion Control Plan

The Master Development Plan for the four-season resort must include a Revegetation and Erosion Control Plan. The developer shall consult DNR's Plant Material Center for direction on delineation of seed mixes, recommended plant species, fertilizer recommendations, planting dates, types of scarification (if any), standards by which to measure the success of plantings, and evaluation of the revegetation efforts. The plan will include a detailed description of the construction methods and erosion control measures which the lessee will use in developing and operating in the lease area. The plan should include surficial geology analysis, soils testing, and an engineering plan. The erosion control plan should be prepared in such a way as to also be usable for Department of Environmental Conservation and Department of Fish and Game permitting.

4. FISH AND WILDLIFE

a. Habitat Mitigation

Habitat loss beyond that amount impacted by the construction of the proposed roads, facilities, and ski runs will be minimized. The Master Development Plan must include a habitat mitigation plan that describes specific design methodology that the developer will use to minimize direct and irrevocable habitat loss. The plan shall estimate the number of acres of wildlife habitat lost by the placement of improvements. The plan must describe construction techniques that the developer will employ to reduce or eliminate long-term effects on the habitat disturbed during construction. Furthermore, the plan must describe long term maintenance strategies that the developer will use for habitat that will be modified to enhance recreational values (such as ski trails). The habitat mitigation plan must be reviewed by ADF&G.

b. Wildlife Viewing Opportunities

Because this management unit is intended to be a major tourism and developed recreation area, the developer should consider providing opportunities for wildlife viewing. To maximize viewing opportunities, the resort project should be designed with viewing as a goal. The developer will consult with ADF&G to determine the feasibility of providing wildlife viewing opportunities, and in their planning and implementation.

c. Wildlife Habitat Enhancement

- (1) Design of habitat enhancement projects, if required by DNR, shall be conducted as part of the habitat mitigation plan. Enhancement will be designed so that it does not detract from the scenic setting of the resort and to minimize visual impacts from outside the lease area.

- (2) Enhancement projects must be approved by the Department of Natural Resource before they may be undertaken.
- (3) Enhancement measures may include, where appropriate, small forest clear-cuts, thinning of tree stands, stimulating or reducing undergrowth by hydroaxing or cutting with hand tools, soil scarification, planting, and fertilizing.

d. Maintain Corridors or Greenbelts

Corridors or greenbelts of relatively undisturbed vegetation shall be maintained in order to provide areas for wildlife movement.

e. Trail Systems

Trail systems should have adequate natural areas to minimize disturbance caused by trail users to moose on winter range.

f. Fences

The construction of fences in wildlife habitat areas should be minimized. Fences (other than bear-proof fences for garbage collection areas or as described in **Guideline g(4)** below) should be designed and constructed to allow for free passage of wildlife at appropriate locations.

g. Prevent Moose-Motor Vehicle Collisions

Prevent moose-motor vehicle collisions by implementation of some or all of the following measures:

- (1) Minimize the length and number of roads within the resort lease area.
- (2) Design resort roads for slow driving speeds without compromising other safety concerns such as maintenance of safe line-of-sight distance.
- (3) Motor vehicle speeds should be regulated in areas known to be important moose movement/migration routes in order to minimize moose-motor vehicle collisions.
- (4) Provide fencing adjacent to roads as necessary and feasible to direct moose to safe crossing areas.
- (5) Provide street lighting at known moose crossings.
- (6) Other measures as appropriate.

During the master development planning phase and subsequent operations, DNR, based on recommendations from ADF&G and in consultation with the developer, will decide which of these measures to implement.

j. Minimize Human and Large Mammal Conflicts

DNR will take all reasonable and appropriate action to minimize human and large mammal conflicts. A program for minimizing human and large mammal (e.g., moose, bear) conflicts will be implemented by means of some or all of the following measures:

- (1) The developer, based on recommendations from ADF&G and DNR, will prepare and implement a management plan to provide for closures of affected areas (but not entire resort) to public use when and where there is a high likelihood of human-bear conflict.
- (2) DNR, in consultation with the developer, may establish measures such as closures or a permit program to manage back country use to minimize impacts on bear denning and breeding areas.
- (3) The developer should educate resort visitors about ways of avoiding human and large mammal (e.g. moose, bear) conflicts through brochures, pamphlets, audio-visual methods, interpretative displays, or other appropriate methods.
- (4) The developer should place signs at strategic locations informing users of areas where bears may occur, e.g., berry production areas; these signs should include safety precautions and procedures for avoiding bear encounters.

During the master development planning phase and subsequent operations, DNR, based on recommendations from ADF&G and in consultation with the developer, will decide which of these measures to implement. The developer may propose other methods, which should be reviewed by ADF&G to determine their feasibility before implementation.

k. Garbage

Garbage from the resort and ancillary facilities should be removed to an appropriate site on a regular basis (daily if possible).

l. Posting Public Information

All trail heads, lift houses, and other developed access points, should have public information posted on how to avoid conflicts with bears and rules on back country use including packing out garbage.

m. Open-pit Garbage Dumps Not Permitted

Open-pit garbage dumps (including those with surface burning) within the lease area will not be permitted.

n. Bear-proof Garbage Facilities

Bear-proof fencing or bear-proof containers shall be used at all garbage storage and transfer sites.

5. WATER

a. Public Water Supply

The following measures should be evaluated and utilized in resort planning and development to offset possible negative impacts to water:

- (1) On- or off-site public water storage for use during abnormally low flows at times of high demand (surface water source).
- (2) Water conservation programs.
- (3) Ground-water wells.
- (4) Bring in water from off-site sources such as public wells, public water utilities, etc.

b. Water Supply for Snowmaking and Other Resort Purposes

If not controlled and monitored, water withdrawals, including those for snowmaking, may have adverse impacts on Glacier, Crow, and Winner Creek streamflow during the winter low flow months. Lowered flows could affect fish survival with respect to egg incubation, rearing, and overwintering. Alternate means of providing water for snowmaking during low-flow periods will need to be addressed by the developer and approved by DNR:

- (1) Establish storage ponds at strategic locations that can be accessed by the snowmaking system.
- (2) Use ground water to augment snowmaking, if withdrawals do not adversely impact local stream levels or holders of prior water rights.
- (3) Use water from off site public water sources, if available, cost effective, and contingent upon adequate water remaining after satisfying domestic, fire flow demand, and emergency reserves.

c. Hydrogeologically Sensitive Areas

Resort development should avoid hydrogeologically sensitive areas, i.e. those which, due to high water tables and/or near-surface bedrock, are especially susceptible to ground water contamination.

d. Protection of Aquifer Recharge Areas

Engineering practices consistent with protection of recharge areas will be employed, including but not limited to:

- (1) Impermeable liners will be used for disposal, evaporation, sewage ponds, or lagoons.
- (2) The developer will monitor ground water in the vicinity of golf courses, horse barns, salt or salted sand storage sites, areas of fuel use or storage, water disposal, and high yield water development..
- (3) Surface and subsurface water and storm water runoff shall be protected from contamination to avoid negative impacts on water quality. Where surface water contamination is unavoidable, treatment is required before allowing surface water discharge to the surface or subsurface.
- (4) Snow piles should be placed away from creeks or surface drainage to creeks or water bodies.

e. Management of Surface Run Off

Appropriate measures will be taken to mitigate any negative impacts from increased surface runoff resulting from road and parking lot development, artificial snow-making and vegetation removal. See *Revegetation and Erosion Control Guidelines* above.

f. Stream Monitoring

The developer will be required to consult the Division of Mining and Water Management and the Department of Environmental Conservation for advice and requirements on monitoring streamflow discharges and water quality parameters, based upon the scale and phasing of the prospective development. The Division of Land will consider the adequacy of the developer's monitoring program prior to approving the Master Development Plan.

g. Ponds

Man-made ponds within the development should be designed as an aesthetic attraction and to prevent slope destabilization, contamination, and water loss.

h. Water Intake Structures

Where necessary to protect fish, water intake structures will be screened and intake velocities will be limited to prevent entrapment, entrainment, or injury to fish. Screen size, water velocity, and intake design shall be approved by DNR Division of Mining and Water Management, with consultation with ADF&G.

6. OTHER ENVIRONMENTAL QUALITY GUIDELINES

a. Air Pollution

To minimize air pollution within the resort area, consider reducing traffic by making public transportation available and attractive to use. The use and number of wood stoves/fireplaces should be minimized in the project. Use of fireplaces fueled by natural gas are encouraged, if natural gas is available. Any wood stoves that are utilized in the project area should have emission control devices to reduce emissions.

b. Noise

Special architectural treatment to absorb sound, site planning, and the establishment of buffer zones to isolate noisy equipment should be incorporated in project planning.

Appropriate techniques, mufflers, and materials should be used to reduce machinery noise. The techniques listed below may be used to reduce construction and operation noise.

- (1) Schedule equipment operations to keep average noise levels low; for example, scheduling the noisiest operation to coincide with times of highest ambient levels, keeping noise levels relatively uniform in time, turning off idling equipment, and restricting working hours.
- (2) Increase the number of machines at work at any one time (this will reduce the duration of noise exposure, although it will increase the noise level during that particular time of operation).
- (3) Make use of speed limits to control noise from vehicles.
- (4) Keep noisy equipment operation as far as possible from site boundaries.
- (5) Provide enclosures for stationary items of equipment and barriers around particularly noisy areas on the site or around the site itself.
- (6) Maintain and replace noise control devices and mufflers.

c. Engineering Geology

The developer should evaluate the engineering geology of the lease area, including soils, slope stability, drainage, and earthquake hazard. The developer must demonstrate that the appropriate design, engineering, and construction practices are used for the existing conditions.

d. Avalanche and Mass-wasting Hazard

- (1) Areas of high avalanche or mass-wasting hazard. Residential structures, public buildings, ski lift terminals, or other facilities that concentrate human activity will not be placed in areas of high avalanche or mass wasting hazard unless the site of the facility (including the facility itself and areas outside the facility where people may be present) can be protected. Roads should avoid areas of high hazard if possible—if not possible, the developer will place warning signs along the road at hazard zones. Utilities should be placed underground when crossing areas of high hazard.
- (2) Areas of moderate avalanche or mass-wasting hazard. Residential structures, public buildings, ski lift terminals, or other facilities that concentrate human activity will not be placed in areas of moderate avalanche or mass wasting hazard unless the facility can be protected through structural design, or the site of the facility (including the facility itself and areas outside the facility where people may be present) can be protected.

SHORELANDS, TIDELANDS, AND SUBMERGED LANDS

The State owns the beds of navigable waterways (called shorelands) as defined by federal law. The federal government has made determinations of navigability, prior to federal land conveyances, for thousands of rivers, lakes and streams to determine whether the state or federal government owns the shorelands beneath these waterbodies. The state also makes navigability determinations prior to state land disposal to establish public use easements associated with navigable waters, or for other state interests.

Disputes between the state and federal governments' determinations of navigability and title to shorelands are ultimately determined by the courts. Title navigability determinations have been made for only three waterways in the planning area—Portage Creek, Portage Lake, and Placer Creek. Undoubtedly there are more navigable waterways within the planning area.

The state also owns tidally influenced coastal lands; consisting of “tidelands” and “submerged lands”. Tidelands are defined as lands between mean high water and mean low water. Submerged lands are defined as land from mean low water to a line three miles seaward from mean high water. Effectively the state then owns all of Turnagain Arm from the mean high tide water mark seaward. Mean high tide water mark is determined by survey.

Shorelands, tidelands, and submerged lands are subject to the guidelines in this chapter and to any specific guidelines identified in Chapter 3 for individual waterbodies. Where navigable rivers, lakes, or streams pass through, or are located on, state land, shorelands will be managed consistent with the guidelines in Chapter 3 for the adjacent uplands.



Tidelands along western Turnagain Arm

GOALS

Shorelands, tidelands, and submerged lands will remain in state ownership, be available for multiple use, and remain open to mineral entry (unless specifically closed to mineral entry). In general, they will be managed to protect existing uses, including habitat and harvest, recreation, trail and other transportation uses.

MANAGEMENT GUIDELINES

a. Land Use Authorizations

If DNR issues a land use authorization on shorelands or tidelands, DNR will require applicants to use areas (such as unvegetated gravel bars) that will reduce the likelihood of possible land use disagreements with upland owners. DNR will retain the right to issue a land use authorization over the objection of adjacent landowners.

b. Land Below Ordinary High Water

Since land below ordinary high water floods periodically, DNR's management preference is to deny authorizations for most facilities on land below ordinary high water.

c. Protect Access to Public and Navigable Waters

The state constitution and state law (Title 38) require DNR to ensure that the rights of the public to free access to public and navigable waters are protected.

d. Tideland and Shoreland Uses

Applications for tideland uses where the applicant does not qualify under AS 38.05.075(c), and applications for shoreland uses that require use of private uplands will not be considered until there is a written agreement between the applicant and the upland owner(s) approving the necessary use. The term of the lease should not be longer than the term of agreement between the applicant and the upland owner. If the applicant has not applied for use of the adjacent uplands, the application must show how all necessary associated uses will be accommodated on the shorelands or tidelands.

e. Gravel Extraction

Gravel extraction is allowed when consistent with the policies found in this chapter.

f. Land Use Designations

Shorelands, tidelands and submerged lands not otherwise designated by Chapter 3 of this plan are designated in accordance with the Land Use Summary Chart on page 2-31.

LAND USE SUMMARY CHART

Shorelands, Tidelands, and Submerged Lands

Surface Land Use Designation	Subsurface	Prohibited Surface Use	Comments
Public recreation, Wildlife habitat	Open	Land disposals*	Includes shore- lands, tidelands, and submerged lands not otherwise designated by this plan.

*Land disposals are disposals of state land to private ownership as authorized by AS 38.05.057 (disposal of land by lottery), AS 38.08 (homesites), and AS 38.09 (homesteads). For the purposes of this plan, land disposals do not include leasing, and do not preclude transfer of state land to another agency or municipality.

STREAM CORRIDORS

GOALS

1. Provide opportunities for a variety of recreational activities within stream corridors, including wilderness and developed recreational activities.
2. Protect riparian fish and wildlife habitats.
3. Protect water quality to support domestic uses, fish and wildlife production, and recreational activities.

MANAGEMENT GUIDELINES

a. Buffers

Width of buffers along a stream will vary according to management intent for the stream and adjacent uplands. In addition, the buffer width for any given stream may vary along the stream course depending on topography, vegetation, adjoining land use, and land ownership. The following factors may be considered in establishing buffer widths: recreational activities to be accommodated, fish use and their habitat requirements, habitat protection and management, noise abatement, visual quality, water quality, and prevention of riverbank erosion (in which case the buffer should be widened to compensate).

b. Guidelines for Establishing Widths

Although buffer widths may vary from stream to stream, a basic level of consistency is necessary to avoid confusion about the width of public use and access areas along the state's many streams; also fieldwork and site analysis to establish separate buffer widths for each stream corridor would be prohibitively expensive. The following guidelines are intended to establish a reasonable degree of consistency in buffer widths used by the department when disposing of an interest in state land.

Standard Buffer Width: 100 to 200 feet. A standard minimum buffer width of 200 feet should generally be established landward from the ordinary high water mark on each bank unless the use or activity is water-dependent or water-related. This width may be reduced to a minimum of 100 feet on each bank in individual cases when consistent with the management intent for the area. The width of the buffer will be adequate to maintain public access to riparian areas and protect water quality in accordance with water quality standards established by the Department of Environmental Conservation and the Forest Practices Act.

d. Uses Allowed in Buffers

Water-dependent structures, such as docks and boathouses, may be allowed within publicly owned buffers. If a structure would block public access, the Division of Land will require an applicant to provide alternate access. Commercial or industrial uses and activities that are neither water-dependent nor water-related may be considered on a case-by-case basis provided that the applicant can demonstrate public need and lack of suitable alternatives. If, because of topography or adjacent land ownership, it is not practical to maintain a buffer adjacent to fish habitat, public water supplies, or recreational waters, other measures will be used to mitigate the impacts.

e. Alteration of the Hydrologic System

Channelization, diversion, or damming that will alter natural hydrologic conditions and have a significant adverse impact on important riverine habitat should be minimized.

f. Soil Erosion

Soil erosion will be minimized by restricting the removal of vegetation adjacent to streams and by stabilizing disturbed soil as soon as possible. Projects to stabilize a streambank require an authorization from DNR. Please see ***Resort Development Guideline 3, Revegetation and Erosion Control***, in this chapter.

SUBSURFACE RESOURCES

GOALS

1. Make metallic minerals, oil, and gas available to contribute to the state's energy and mineral supplies, and to the economy.
2. Make metallic minerals available for recreation mining.

MANAGEMENT GUIDELINES

1. MINERALS

a. Mineral Exploration

Recognized exploration methods for locatable minerals will be allowed on all state lands. Exploration methods may be subject to the conditions of a land use permit.

b. Open to Mineral Entry

All state lands open to mineral entry are multiple use areas where mineral development will be accommodated and encouraged consistent with applicable state law and the policies of this plan.

c. Reclamation of Mined Land

Plans of operation for mineral development will specify measures necessary to return the land to a useful condition. Specific measures and any requirement for a performance bond will be consistent with AS 27.19. Specific measures may include storage and reuse of topsoil, disposal, or overburden, regrading of tailings and revegetation, reestablishment of natural (not necessarily original) contours, reestablishment of natural drainage system, long-term erosion control measures, and removal of equipment, improvements, and other man-made items.

d. Access for Mineral Development

Existing roads should be used for access to mine sites wherever feasible.

e. Control of Impacts

Guidelines will be developed as necessary through the land use permit or leasing process to minimize adverse impacts of mining, especially in settled areas, recreation areas, and in areas viewed from roads.

2. OIL AND GAS

The planning area has low oil and gas potential.

The plan defers any decisions regarding leasing for oil and gas to DNR's existing leasing processes. The department's statewide policies for oil and gas are found in the Five Year Oil and Gas Leasing Program. Specific stipulations for oil and gas exploration, development, and production activities will be developed and applied case-by-case using the oil and gas lease sale process.

3. MATERIALS

a. Material Sites

The following are general guidelines for extracting materials:

- (1) Material sources. Consideration should be given to all potential material sources. Location and design of sites should take into account factors such as scenic quality, availability of materials, transportation to the site, and effects to fish and wildlife habitat.
- (2) River size and recharge rates. Selection of gravel sites in floodplains should take into account the volume of gravel available from various stream types. Generally, the largest river, or the one with the largest gravel recharge rates should be chosen.
- (3) Reclamation. Reclamation of material sites will be accomplished consistent with AS 27.19.
- (4) Extraction from active channels. When extracting gravel in active or inactive floodplains, maintain buffers that will minimize sedimentation and will contain active channels in their original locations and configurations in the short term.
- (5) Maintaining other uses and resources when siting and operating material sites. The requirements of the permit or lease will give adequate protection to other important resources and uses including existing water rights, water resource quantity and quality, navigation, fish and wildlife habitat and harvest, commercial forest resources, recreation resources and opportunities, historic and archaeological resources, adjacent land uses, and access to public or private lands.
- (6) Screening. Material sites should be screened from roads, residential areas, recreational areas, and other areas of significant human use. Sufficient land should be allocated to the material site to allow for such screening.

TRAILS

GOALS

1. Ensure continued opportunities for public use of important recreation, public access, and historic trails of regional and statewide significance.
2. Protect or establish trail corridors to meet projected future use requirements as well as protecting current use.

MANAGEMENT GUIDELINES

a. Trail Buffer Width

Trails of regional or statewide significance on state land will be protected by publicly owned corridors that have a minimum width of 100 feet (50 feet each side of center-line). These corridors should be designed to protect the quality of the experience of the user and to minimize negative effects, such as noise or dust, from adjacent land uses. Corridor widths may be increased to minimize land use and ownership conflicts, to protect the privacy of adjacent landowners, to separate motorized from non-motorized uses, to allow future siting of public facilities, to allow flexibility for rerouting, or to adapt a trail to allow specific public uses or aesthetic or environmental concerns. Corridor widths may vary along the length of a trail because of the above considerations. The width of a corridor on any portion of a trail should also be based on the management intent for adjacent public land as expressed through applicable land use plans. Trail corridors should be designed in consultation with local trail committees and the Municipality of Anchorage.

b. Identification of Trails

Prior to lease or disposal of public lands, trails that merit protection should be identified. The Division of Land will be the lead agency for identification of trails and should consult with local trails committees and the Municipality of Anchorage. In addition, any agency, organization, or individual may identify public trails to be considered for protection.

c. Iditarod National Historic Trail System (INHTS)

The INHTS will be managed consistent with the Memorandum of Agreement between the State of Alaska and the Bureau of Land Management (BLM) covering the INHTS. For permits and leases along the INHTS, the State Office of History and Archaeology will be consulted.

d. Land Use in Trail Corridors

Land use activities within a trail corridor—for example, permits, leases, timber sales, and material sales—should be managed and permits and leases issued so as to not adversely affect trail use or the aesthetic character of the trail. This does not preclude trail crossings or rerouting of trails as described below.

e. Rerouting Trails

Rerouting trails may be authorized to minimize land use conflicts or to facilitate use of a trail if alternate routes provide opportunities similar to the original. If trails are rerouted, provision should be made for construction of new trail segments if warranted by type of use. Rerouting trails should be done in consultation with local trail committees and the Municipality of Anchorage. Historic trails that follow well-established routes should not be rerouted unless necessary to maintain trail use.

WATER

GOALS

1. Provide for the use of water for the maximum benefit of the people through the established statutes and regulations related to water management.
2. Initiate research to determine the water availability for all users, and instream flow requirements for fish and wildlife populations and related recreational activities. Instream flow reservations should be acquired where warranted.
3. Protect watersheds to minimize flooding, erosion, sedimentation and other negative impacts from use and development, and maintain water quality and potable water supply.

MANAGEMENT GUIDELINES

Other guidelines affecting water are located in the *Resort Development Guidelines* in this chapter.

a. Priority Uses

- (1) Except for public water supply and domestic use, the highest priority water use in the study area is for recreation and protection and maintenance of fish and wildlife, and their habitat. DNR should not allow an appropriation of water to cause the instream flow or lake levels to fall below the amount determined necessary by ADF&G to protect or maintain fish and wildlife habitat, unless, under the procedures outlined in AS 46.15.080, the Commissioner of DNR makes a finding that the competing use for water is in the best public interest.
- (2) The appropriation of water shall be allowed as long as the appropriation meets the criteria for issuance of a permit in accordance with AS 46.15.080 and meets all of the requirements and guidelines in this plan established to protect fish and wildlife populations, habitat, recreation and related public uses.

b. Reservation Priorities

- (1) As time and budget allow, DNR & DF&G shall give support to instream flow studies and reservations of water that are necessary to protect and promote resource values and uses identified in this plan for streams and other waterbodies.
- (2) High priority streams for instream flow study and possible reservation include Glacier, Crow, and Winner creeks. These have been identified because of their high public values particularly for habitat and recreation and the high potential for competition for water between these uses and resource development. If necessary, instream flow reservations applied for under AS 46.15.145 will be made on these priority rivers and streams.

c. Water Quality

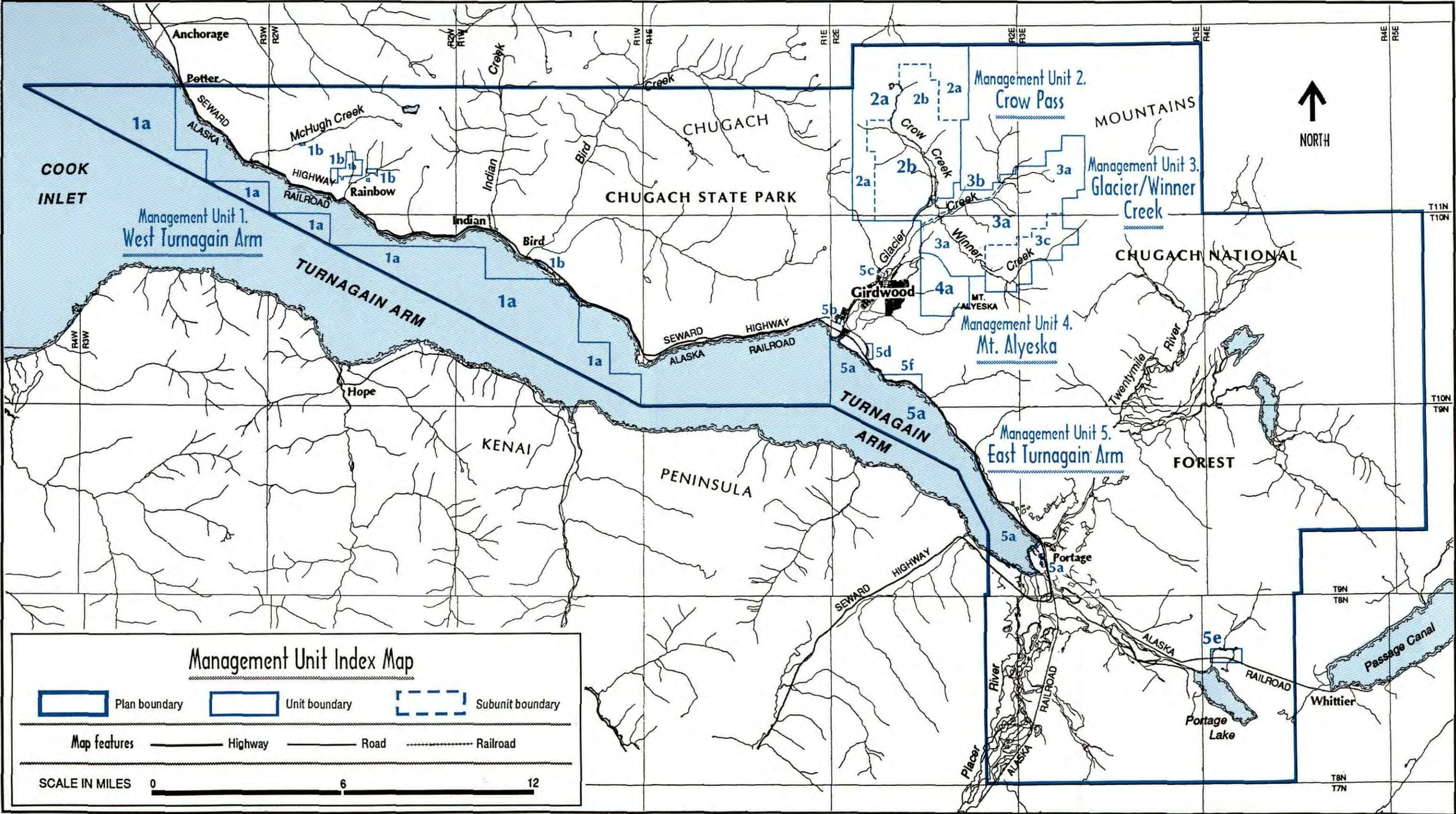
Water quality shall be maintained in the streams and other water bodies occurring in the Turnagain Arm Planning Area. The Division of Mining & Water Management should establish annual water quality monitoring sites in key areas as funding allows. In cases where water quality problems are identified, remedial action should be taken as funding allows. Of particular concern are potential impacts to recreational users, wildlife and/or anadromous fish from toxic discharges in mining areas, and from fecal contamination in intensive recreational use areas.

CHAPTER 3

Land Management Policies For Each Management Unit

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Map 3-1. Management Unit Index Map



Chapter 3

LAND MANAGEMENT POLICIES FOR EACH MANAGEMENT UNIT

INTRODUCTION

This chapter presents specific land management policies for each of the plan's five management units. The chapter is organized by the five management units. Each management unit is further subdivided into subunits. A map showing the management units is on page 3-1.

Each management unit includes the following:

- 1. Background information** Background information on the resources of the management unit.
- 2. Management Intent** Management intent statement that defines management objectives for the unit, and the methods to achieve these objectives.
- 3. Management Guidelines** Management guidelines that state specific courses of action that must be followed when DNR authorizes use of state land or resources. Also listed are references to applicable area-wide management guidelines in Chapter 2.
- 4. Land Use Summary Charts** Land use summary charts which include primary surface land use designations, subsurface designations, and prohibited uses. While the land use designations shown in the land use summary charts provide a quick picture of planned uses within a management unit, the management intent statement should be used as the more definitive explanation of management policy.
- 5. Maps** Maps showing each management unit and the subunits. A map showing all the management units and subunits is on page 3-1.

The land use designations shown on the maps and charts in this chapter are flexible. Uses not shown may be allowed on a case-by-case basis if the Department of Natural Resources determines they are consistent with the statement of management intent for the unit and consistent with applicable management guidelines. Specific boundaries of land use designations shown on the maps may be modified through on-the-ground implementation activities (site planning, disposal, etc.) as long as modifications follow the intent of the plan.

Management Unit 1

West Turnagain Arm

BACKGROUND

This management unit includes state tidelands and isolated parcels of state uplands between Potter and Bird Point. The tidelands addressed by this plan include only those located outside of Chugach State Park. The isolated parcels are small state-owned lots near McHugh Creek, Rainbow, and Bird.

This management unit consists of two subunits:

Subunit 1a

Subunit 1a includes approximately 15,000 acres of state tidelands. These tidelands are subject to very strong tidal currents and tidal bores. The extensive mudflats exposed at low tide are unstable and dangerous.

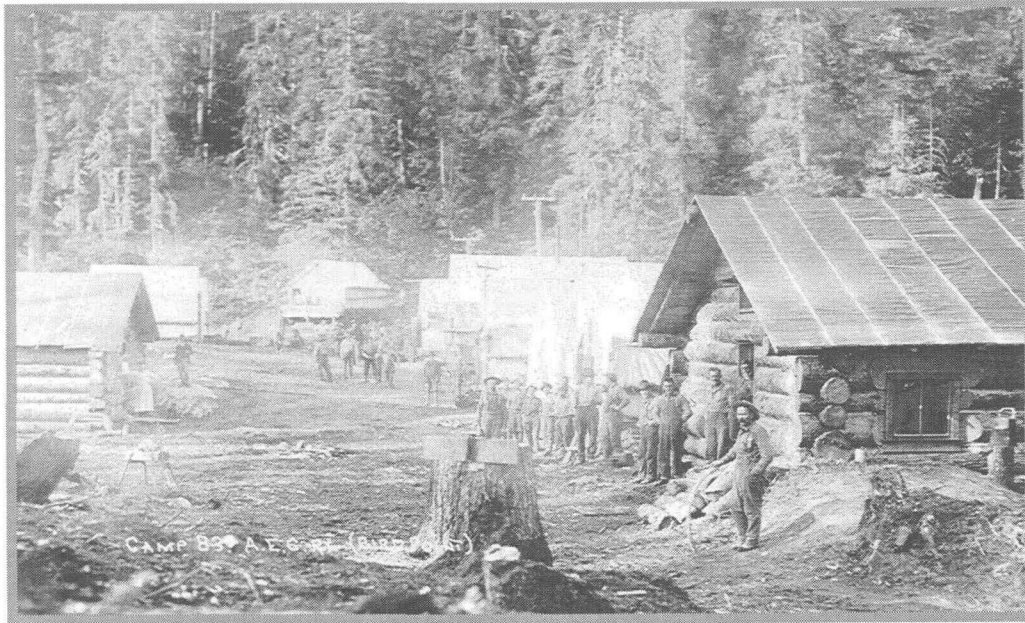
This subunit is used heavily for recreation by windsurfers and kayakers, and is within the viewshed of one of the most scenic and travelled roads in the state—the Seward Highway. Motorists travelling along the Seward Highway stop frequently to view wildlife, including beluga and killer whales in the waters of Turnagain Arm.

There are no known major mineral occurrences in the tideland areas, or within any of the isolated parcels within this management unit. Oil & gas potential for this area is low.

The Seward Highway/Turnagain Arm scenic corridor has been recognized by the U.S. Forest Service and identified as an Area Meriting Special Attention by the Anchorage Coastal Management Plan.

Subunit 1b

Subunit 1b includes six small parcels of state land: one along McHugh Creek, four near Rainbow, and one near Bird. The McHugh Creek and Bird parcels are currently being managed by the Division of Parks and Outdoor Recreation (DPOR) under an interagency land management agreement. Three of the parcels near Rainbow were conveyed to the state with the intent that they be added to Chugach State park. The fourth Rainbow parcel was omitted from the state park because of a technical error in the park's legal description.



Courtesy Anchorage Museum of History & Art

Railroad construction camp at Milepost 83, Bird Point, 1917

MANAGEMENT INTENT

Subunit 1a

Tidelands and submerged lands within this subunit will be retained in public ownership and managed for multiple use. The management emphasis for this subunit is to:

- 1) protect the high scenic values of the Turnagain Arm/Seward Highway scenic corridor;
- 2) continue offering high quality recreational opportunities;
- 3) maintain and enhance wildlife habitat.

Subunit 1a will remain open to mineral entry. It is anticipated that there will be a need to use tidelands within this management unit for highway and railroad expansion purposes. This plan does not preclude the use of tidelands in this management unit for transportation related uses.

Subunit 1b

Subunit 1b is recommended for addition to Chugach State Park (please see **Areas Recommended for Addition to Chugach State Park** in Chapter 4). In the interim, these parcels will continue to be managed by DPOR, and will be closed to mineral entry.

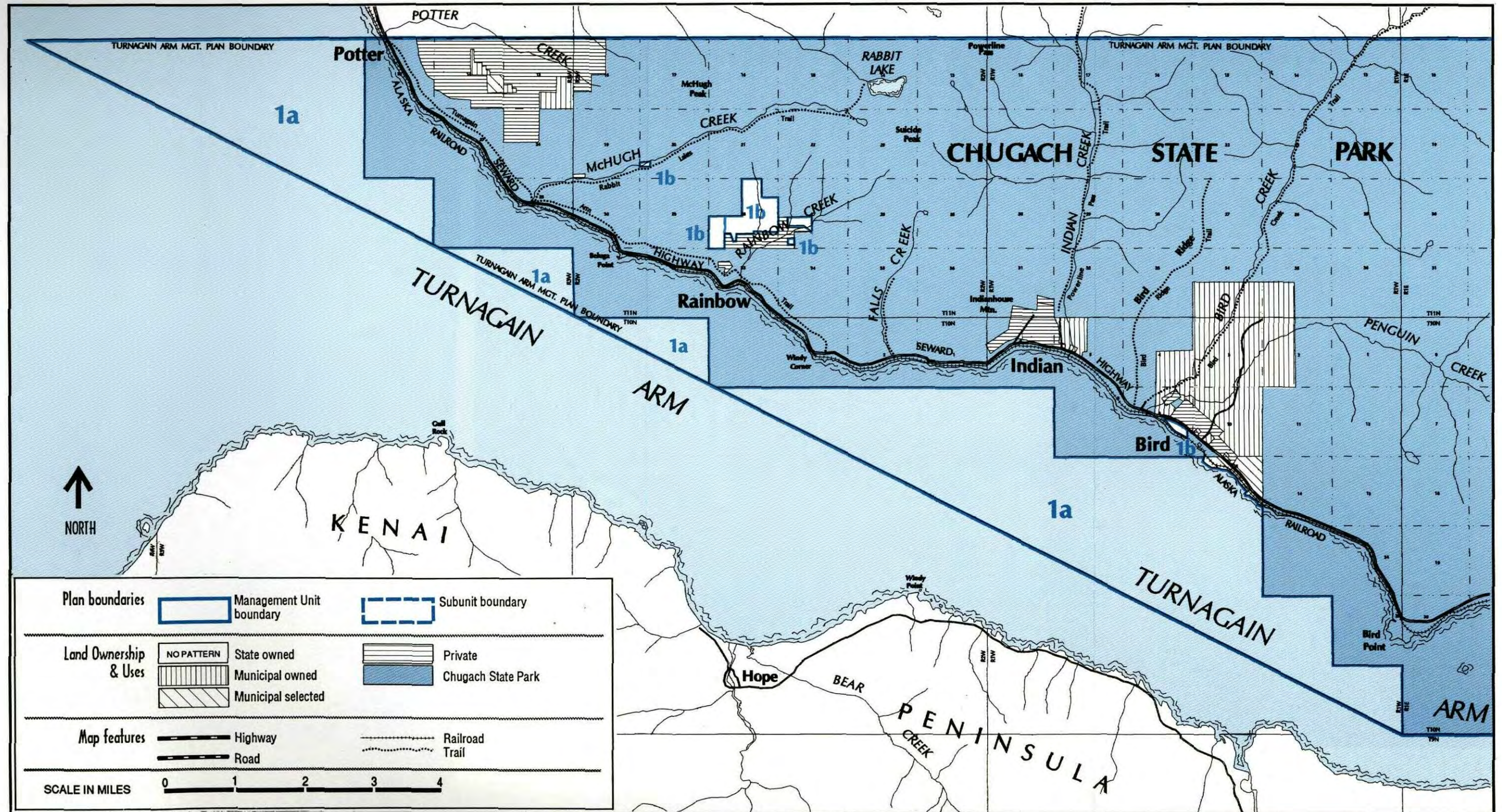
LAND USE SUMMARY CHART

Management Unit 1: West Turnagain Arm

Subunit	Surface Land Use Designation	Subsurface	Prohibited Surface Use	Comments
1a Tidelands 15,000 acres	Public recreation, Wildlife habitat	Open	Land disposals**	
1b Six Isolated parcels 433 acres	Public recreation	Closed	Land disposals**	Recommended for addition to Chugach State Park

**Land disposals are disposals of state land to private ownership as authorized by AS 38.05.057 (disposal of land by lottery), AS 38.08 (homesites), and AS 38.09 (homesteads). For the purposes of this plan, land disposals do not include leasing, and do not preclude transfer of state land to another agency or municipality.

West Turnagain Arm



Management Unit 2

Crow Pass

BACKGROUND

The Crow Pass Management Unit includes 12,300 acres of state selected land in the Crow Creek valley, including Crow Pass. This management unit was selected as part of the state's National Forest Community Grant land entitlement and is currently part of the Chugach National Forest. Within this management unit are inholdings of private residential land and patented mining claims. The management unit is bounded on the west and north by the Chugach State Park, to the east by Chugach National Forest, and to the south by state and municipal lands.

This management unit consists of two subunits:

Subunit 2a Subunit 2a includes land at higher elevations that is adjacent to Chugach State Park.

Subunit 2b Subunit 2b includes land along Crow Creek Road and surrounding the active federal mining claims.

Most of the land within this management unit is steep alpine terrain with high avalanche danger. The higher elevations provide high value habitat for Dall sheep and mountain goats.

This management unit is heavily used for recreation. The Crow Pass Trail is one of the most heavily used trails in the state, and provides access to icefields, early and late season skiing, and mountaineering. This management unit is noted for its outstanding scenery.

There has been considerable historic mining activity in the Crow Creek valley. The valley has been the only important gold-producing stream on the north side of Turnagain Arm, producing more than 40,000 ounces of gold. Most of this gold was produced in the early 1900's at the Crow Creek placer mine in the lower valley, and at the Monarch lode mine near Crow Pass.



Forest along Crow Creek Road

Many historic sites and relics exist in this management unit. The Crow Creek Mine is a well-preserved historic landmark, and many historic remains and old mine workings can be found along Crow Creek and Crow Pass Trail.

Currently the only producing mines in the valley are the Crow Creek Mine and the Girdwood Mining Company's placer mine near the Crow Pass trailhead, which is located on patented mining claims. There may be high potential for small-scale hardrock mining operations at the sites of the old Jewel and Monarch mines. There are currently 29 existing federal claims within this management unit.

MANAGEMENT INTENT

State land in this management unit will be retained in public ownership. Subunit 2a is recommended for addition to Chugach State Park, and interim management by the Division of Land will be consistent with adjacent state park management. Subunit 2b will be managed for multiple use, with recreation and wildlife habitat as the primary uses. Management of this unit will consider the high value Dall sheep and mountain goat habitat, high scenic values, and historic resources.

Most of this management unit will be open to mineral entry. Because of the historic and existing mineral activity in the Crow Pass area, this plan recognizes that mineral development and high levels of recreational activity may have to coexist along portions of the Crow Pass Trail. Mineral development within this management unit will be conducted in such a manner that will enable the continued high recreational use of the Crow Pass area. However, recreational management will not preclude the use of the Crow Pass Trail for access to mineral resources.

A portion of this management unit, within sections 27, 33, & 34, T11N 2E SM, may be conveyed to the Municipality of Anchorage as part of their municipal entitlement. Please see *Municipal Selections* in Chapter 4.

MANAGEMENT GUIDELINES

Subunit 2a

This subunit is recommended for addition to Chugach State Park. Interim management by the Division of Land should be consistent with adjacent state park lands. The Division of Parks and Outdoor Recreation will be consulted before issuing any land use authorizations within this subunit.

Subunit 2b

The Divisions of Land, Mining & Water Management, and Parks and Outdoor Recreation should develop a joint management agreement for this subunit. This agreement will allow for mining activity while maintaining and enhancing recreational opportunities, and will provide a mechanism by which conflicts can be resolved. The Division of Parks and Outdoor Recreation will be responsible for the management of recreational activities, including the Crow Pass Trail, the Crow Pass Cabin, and the Crow Pass Trailhead. The Division of Mining & Water Management will be responsible for managing mining activities. The U.S. Forest Service may have to be involved in the joint management agreement if mining activity takes place on federal mining claims.

Commercial recreation activities and leasing will be allowed within Subunit 2b if consistent with the joint management agreement.

State lands within sections 27, 33, & 34, T11N 2E SM, will be closed to mineral entry by an existing mineral order because of conflicts with potential resort development in the Glacier/Winner Creek area. This closure is in effect until ten years from the date of conveyance of this land to the state, at which time the land may be re-opened to mineral entry if resort development is not likely to occur (see *Mineral Orders*, Chapter 4).

LAND USE SUMMARY CHART

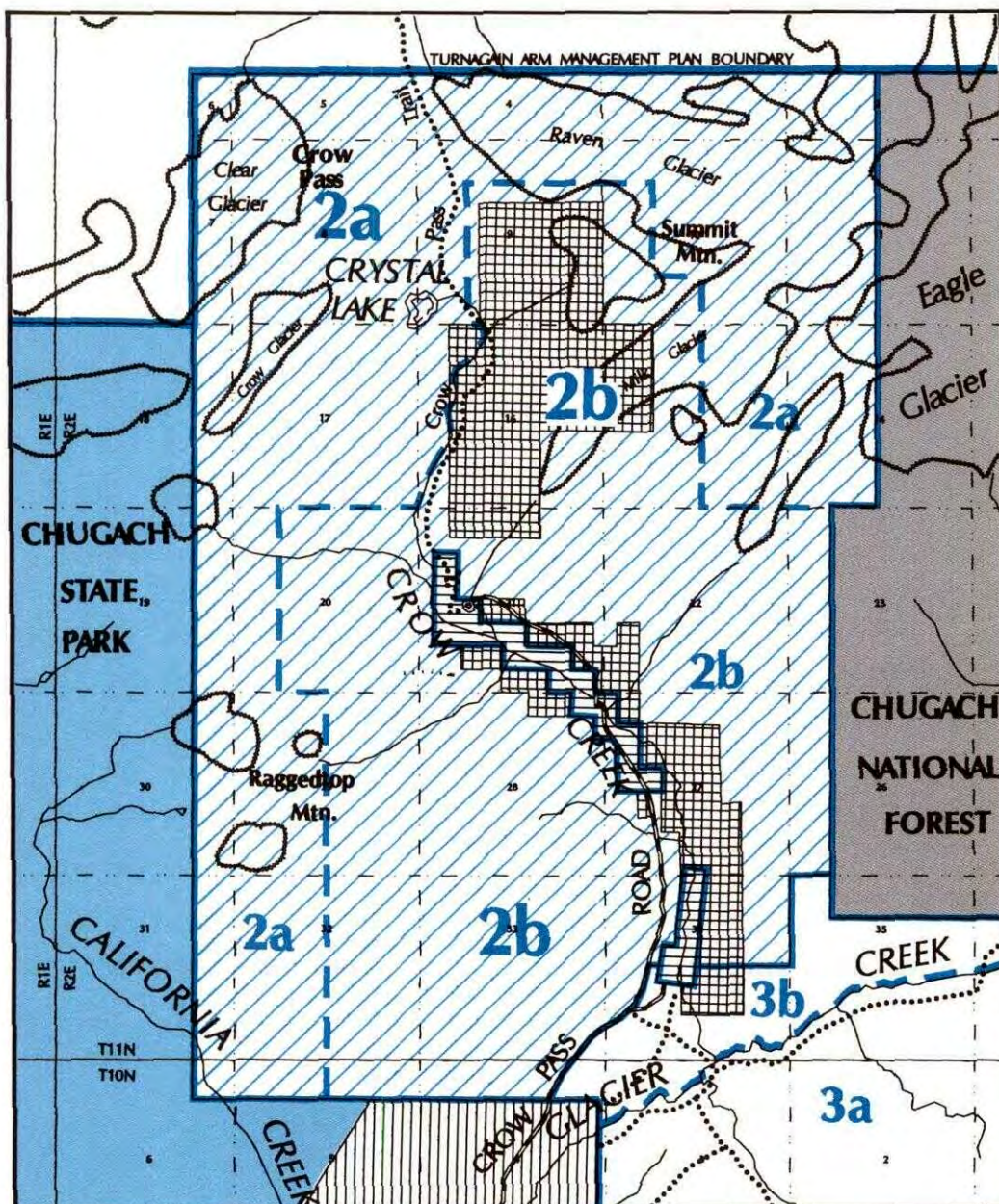
Management Unit 2: Crow Pass

Subunit	Surface Land Use Designation	Subsurface	Prohibited Surface Use	Comments
2a Adjacent to Chugach State Park 5,500 acres	Public recreation, Wildlife habitat	Open*	Land disposals***	State selected; Recommended for addition to Chugach State Park
2b Crow Creek Road 6,800 acres	Public recreation, Wildlife habitat	Open, except for Sections 27,33 & 34**	Land disposals***	State selected; Part of this subunit may be conveyed to the Municipality of Anchorage

*Will be closed to mineral entry when added to Chugach State Park.

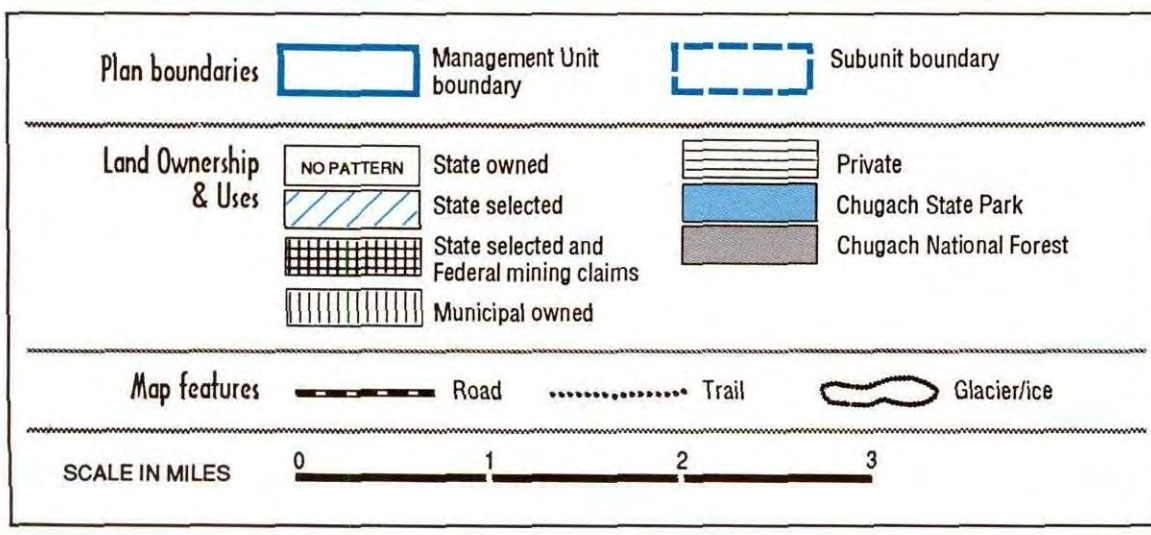
**Closed to mineral entry for 10 years from date of conveyance of land to state.

***Land disposals are disposals of state land to private ownership as authorized by AS 38.05.057 (disposal of land by lottery), AS 38.08 (homesites), and AS 38.09 (homesteads). For the purposes of this plan, land disposals do not include leasing, and do not preclude transfer of state land to another agency or municipality.



Management Unit 2.

Crow Pass



Management Unit 3

Glacier/Winner Creek

BACKGROUND

This Management Unit includes approximately 8,700 acres of state owned and selected land in the Glacier and Winner creek drainages, including the confluence of Glacier, Winner, and Crow creeks, and the mountain massif between Glacier and Winner creeks. This land is part of the state's National Forest Community Grant land entitlement, and was selected for its community expansion and recreation potential.

The Glacier/Winner Creek mountain massif has long been recognized for its potential for developing a downhill ski facility. The mountain could possibly hold a ski area with year-round glacier skiing, over 5,000 feet of vertical drop, and a capacity of about 12,000 people (approximately three times the capacity of the existing Mt. Alyeska ski area). Currently, this mountainous area is used mainly by backcountry skiers, mountaineers, and summer hikers.

The area at the confluence of Glacier, Winner, and Crow creeks has high recreational and scenic values, and is used extensively by the Girdwood community. This area is commonly known as the "Four-Corners," and is bisected by steep rock canyons and waterfalls formed by the three creeks. The popular Winner Creek trail provides access for many hikers to this area. The Four Corners area is also criss-crossed by numerous smaller trails, including a trail along Glacier Creek, and a trail from the confluence of Crow and Winner creeks to the Crow Creek Mine road. The Four Corners area contains numerous historic sites and artifacts.

Although mining claims have previously been staked in this management unit, little mineral activity has taken place in the Glacier and Winner Creek drainages. Most of the mining claims were purchased by the Municipality of Anchorage, and subsequently relinquished. This management unit has potential for recreational gold mining.

Much of this management unit is heavily forested with stands of large Sitka Spruce and western hemlock trees. These Sitka spruce are among the northernmost found anywhere in the state.

Chapter 3. Land Management Policies for each Management Unit



Looking toward the head of the Glacier Creek valley from the Glacier/Winner Creek massif.

This management unit consists of three subunits:

- Subunit 3a** This subunit includes land to the south of Glacier Creek, the lower portion of Winner Creek, and the Glacier/Winner Creek mountain massif.
- Subunit 3b** This subunit includes land to the north of Glacier Creek and along the lower portion of Crow Creek.
- Subunit 3c** This subunit includes land along the upper portion of Winner Creek.

MANAGEMENT INTENT

A portion of subunits 3a and 3b will likely be conveyed to the Municipality of Anchorage as part of their municipal entitlement. Please see ***Municipal Selections*** in Chapter 4.

Subunit 3a

That portion of this subunit that remains in state ownership is to be retained in public ownership and managed for commercial recreation, which may include major resort development. This type of use is appropriate for state lands within this subunit, and management of this subunit should not preclude the option for this type of development.

Because much of this subunit will probably be conveyed to the Municipality of Anchorage, any resort development within this subunit will be a coordinated effort between the state and the Municipality of Anchorage.

While the intent for this subunit is to provide for commercial recreation and resort development opportunities, the emphasis is to maintain the scenic and natural beauty of the area, and to ensure that the impacts to the community of Girdwood are minimized. Resort development should be designed to provide a uniquely Alaskan experience, emphasizing the natural environment, scenic beauty, and historical significance. Because this subunit's large trees are such an important part of the community and natural character of the area, forests should be preserved to the extent possible.

Management of this subunit must ensure that resort development is harmonious with the goals of the Girdwood community. Numerous community workshops have shown what the community residents value the most about their community: the small town character, the spectacular natural environment, and the recreational opportunities. Resort development should add to, rather than detract from, these values.

Probably the single biggest concern from resort development is the impacts to the Girdwood community. Because of this, it is the intent that resort development not overwhelm the community. Resort development should be done in a phased manner. This plan allows for the initial phase within this subunit to include developed ski facilities approximately the same scale as the existing Alyeska Resort.

Subunit 3b

That portion of this subunit that remains in state ownership is to be retained in public ownership and managed for public recreation. Although commercial recreation development will not be allowed in this subunit at this time, this subunit may be suitable for such development in the future. This option should be preserved.

Subunit 3c

If this subunit is conveyed to the state, this subunit should be managed for low-scale commercial recreation development in keeping with the backcountry character of this area.

Forestry

The management intent for forest resources in this unit will be to maintain and enhance scenery and maintain forest health.

The Four Corners

The Four Corners area is where Crow and Winner Creeks join Glacier Creek, within a few hundred feet of each other. This area is very important to the Girdwood community. This area should be managed to protect the high scenic qualities and recreational uses. Development should be sited with this in mind. The following must be considered:

a. Minimize Traffic

Traffic into the proposed resort areas located near the Four Corners area should be minimized—preferably restricted to some type of mass transit, such as shuttle bus, or ultimately an automated system.

b. Employ Aesthetic Road Design

Any road into the proposed resort areas located near the Four-Corners area should be aesthetically designed, landscaped, and curvi-linear.

c. Minimize Vegetation Removal

Removal of trees and vegetation should be kept to a minimum.

d. Visual Impacts

Development should be hidden, designed to fit in with the area.

e. Retain Open Space

As much buffer/open space as possible should be retained between the development and the creeks.

Stream Corridors

Adequate buffers should be retained along Glacier, Crow, and Winner creeks within this management unit to ensure public access, protect the existing scenic character of the trails, and protect water quality and riparian habitat (See also ***Stream Corridor Guidelines*** in Chapter 2).

MANAGEMENT GUIDELINES

Subunit 3a

The type of development that is allowed includes those types of facilities and associated development normally found in an alpine ski/four-season destination resort. This includes, but is not limited to, ski lifts, day lodge, hotel, resort housing, conference center, on-mountain restaurant; and other facilities necessary to support users of the resort. No actions will be taken which preclude resort development in Subunit 3a.

Resort development must be consistent with ***Resort Development Guidelines*** and other applicable areawide guidelines in Chapter 2.

Subunit 3b

Initial resort development may occur only in Subunit 3a. Future expansion of the resort may be allowed in Subunit 3b, after the social, environmental, and economic impacts of the initial development in Subunit 3a have been evaluated. No actions will be taken which preclude resort development in Subunit 3b.

Snowcat/helicopter skiing

Commercial snowcat or helicopter skiing operations may be authorized within this management unit as an interim use before resort development begins. Snowcat skiing operations must be consistent with the **Recreation Guidelines** in Chapter 2. In no way will authorizations for commercial snowcat or helicopter skiing preclude or hinder future resort development. If an access trail is necessary, the trail will be designed and sited so that removal of trees and disturbance of surface vegetation and soils is minimized.

Trails

The Crow Pass segment of the Iditarod National Historic Trail System (INHTS) traverses a portion of this management unit. Although the exact location may not be known, the trail generally follows the west side of Glacier and Crow creeks. This trail should be located and managed consistent with the Memorandum of Agreement between the U.S. Department of the Interior and the State of Alaska covering the management of the INHTS. Within this management unit, the INHTS will be protected by a 400' wide buffer (200' either side of centerline).

The Winner Creek Trail traverses a portion of this management unit. This trail should be protected by a minimum of a 200' wide buffer (100' either side of centerline). The US Forest Service has reserved an easement along this trail, and should be consulted before authorizing any land use activities that may impact this trail.

Additional guidelines affecting these and other trails in this management unit can be found in **Trails Guidelines** in Chapter 2.

Mineral Entry

Subunits 3a and 3b are closed to mineral entry by an existing mineral closing order. This closure is in effect until ten years from the date of conveyance of this land to the state, at which time the land may be re-opened to mineral entry if resort development is not likely to occur (see **Mineral Orders**, Chapter 4). Most of the land within these subunits (4,525 acres) was conveyed to the state on April 3, 1992. This land will be opened to mineral entry on April 3, 2002, unless a lease is issued by the state for the development of a ski resort, or the mineral order is amended.

LAND USE SUMMARY CHART

Management Unit 3: Glacier/Winner Creek

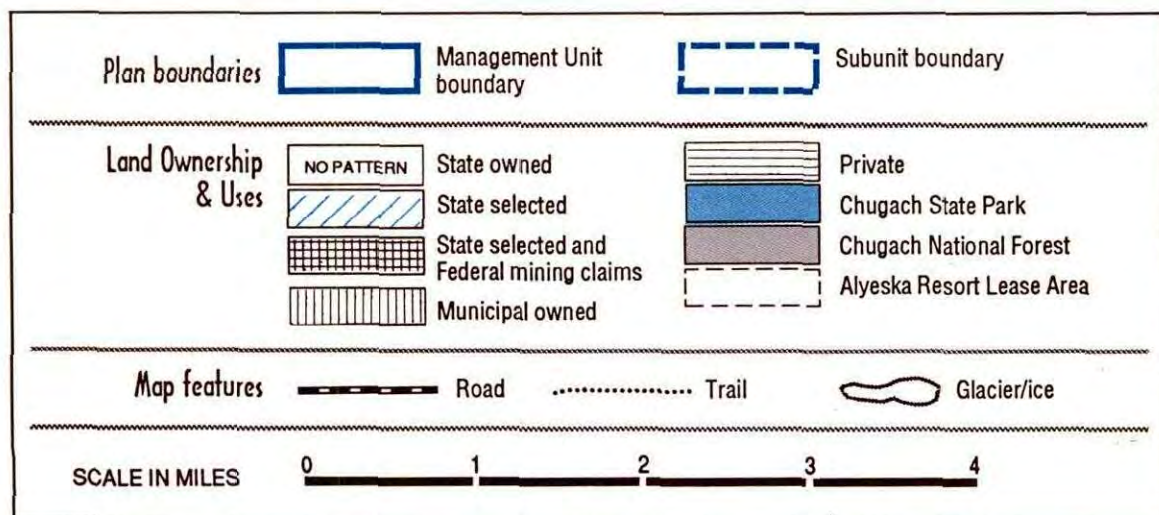
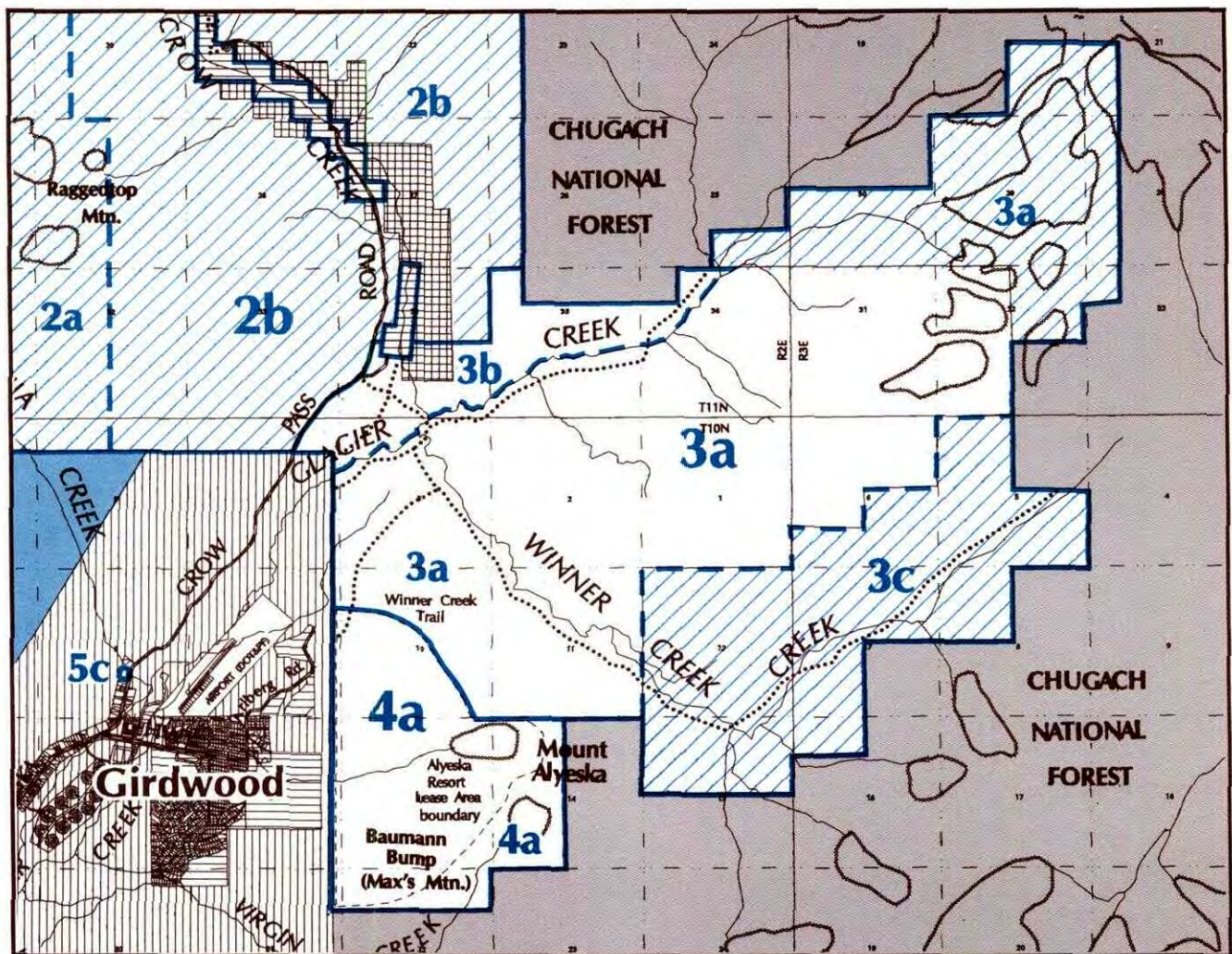
Subunit	Surface Land Use Designation	Subsurface	Prohibited Surface Use	Comments
3a Glacier/Winner Creek 5,750 acres	Commercial recreation	Closed*	Land disposals**	Part of this subunit may be conveyed to the Municipality of Anchorage
3b North side of Glacier Creek 650 acres	Public recreation	Closed*	Commercial recreation leasing Land disposals***	Part of this subunit may be conveyed to the Municipality of Anchorage
3c Upper Winner Creek 2,300 acres	Public recreation, Wildlife habitat	**	Land disposals***	State selected

*Closed to mineral entry for 10 years from date of conveyance of land to state.

**Management decisions to be made when DNR is ready to take conveyance.

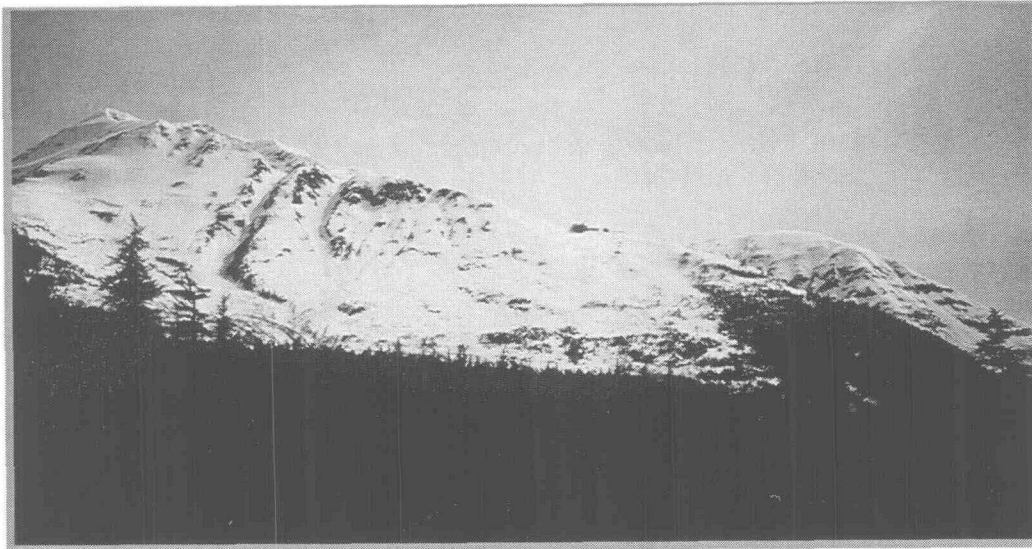
***Land disposals are disposals of state land to private ownership authorized by AS 38.05.057 (disposal of land by lottery), AS 38.08 (homesites), and AS 38.09 (homesteads). For the purposes of this plan, land disposals do not include leasing, and do not preclude transfer of state land to another agency or municipality.

Management Unit 3. Glacier/Winner Creek



Management Unit 4

Mount Alyeska



Mount Alyeska

BACKGROUND

This management unit includes approximately 2,500 acres on the north and west flanks of Mount Alyeska. The Alyeska Resort lease area covers most of this management unit.

This management unit is currently used for commercial recreation purposes as Alaska's largest developed downhill ski facility. The first developed ski facilities on Mt. Alyeska were constructed in 1958. The resort used the land under permit from the U.S. Forest Service until 1993, when the land was conveyed to the State of Alaska. Now, the resort's use of the land is under DNR's management authority.

The Alyeska Resort has six chairlifts, one ropetow, and one 60 passenger tram. The resort has 2,500 feet of vertical rise, and 450 acres of skiable terrain. Also, a luxury 307 room hotel was completed in the summer of 1994.

This unit consists of a single subunit, Subunit 4a.

MANAGEMENT INTENT

Subunit 4a will be retained in public ownership and managed for commercial recreation. This subunit is suitable for a four-season mountain resort development, including a developed ski area with lifts, trams, ski runs, on-mountain facilities. Management is subject to the terms and conditions of the Alyeska Resort lease. Lands outside of the resort lease area will be managed for recreation, protecting wildlife habitat, maintaining scenic qualities, and to avoid conflicts with uses on the adjacent resort lease lands.

Forestry

The management intent for forest resources in this unit will be to maintain and enhance scenery and maintain forest health.

MANAGEMENT GUIDELINES

Because of conflicts with existing commercial recreation use, Subunit 4a is closed to mineral entry by an existing mineral order (see *Mineral Orders*, Chapter 4).

Subunit 4a Subunit 4a is open to commercial recreation leasing.

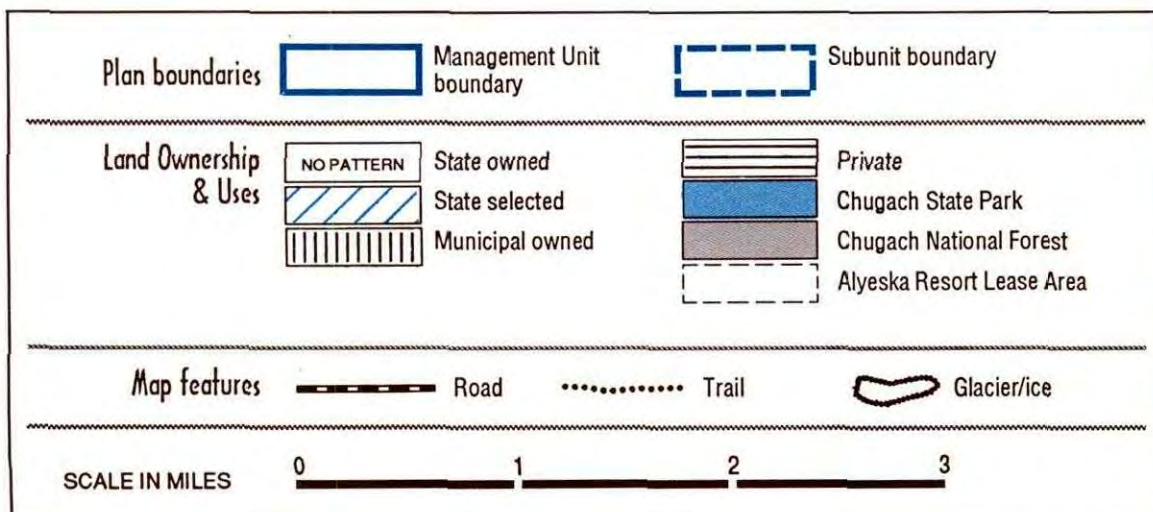
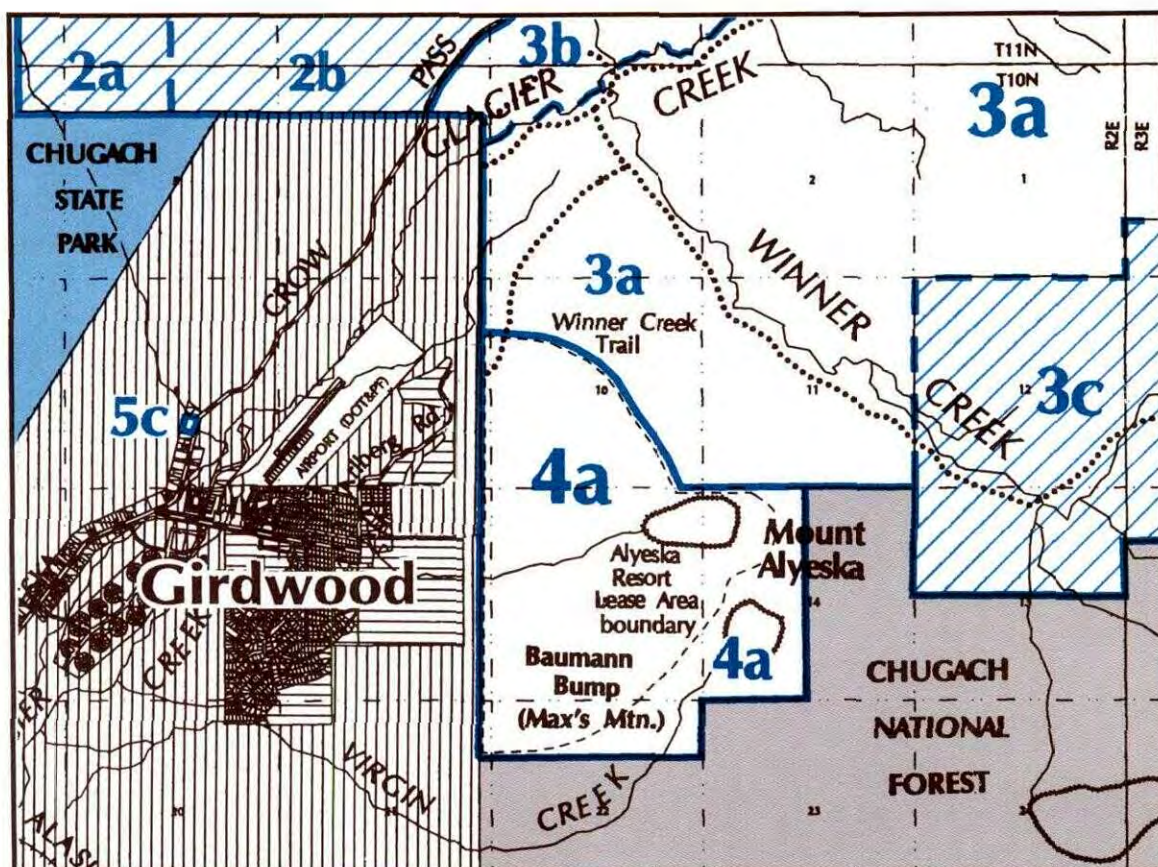
LAND USE SUMMARY CHART

Management Unit 4: Mount Alyeska

Subunit	Surface Land Use Designation	Subsurface	Prohibited Surface Use	Comments
4a Mt. Alyeska 2,500 acres	Commercial recreation	Closed	Land disposals*	Includes existing Mt. Alyeska Resort lease

*Land disposals are disposals of state land to private ownership as authorized by AS 38.05.057 (disposals of land by lottery), AS 38.08 (homesites), and AS 38.09 (homesteads). For the purposes of this plan, land disposals do not include leasing, and do not preclude transfer of state land to another agency or municipality.

Management Unit 4. Mount Alyeska

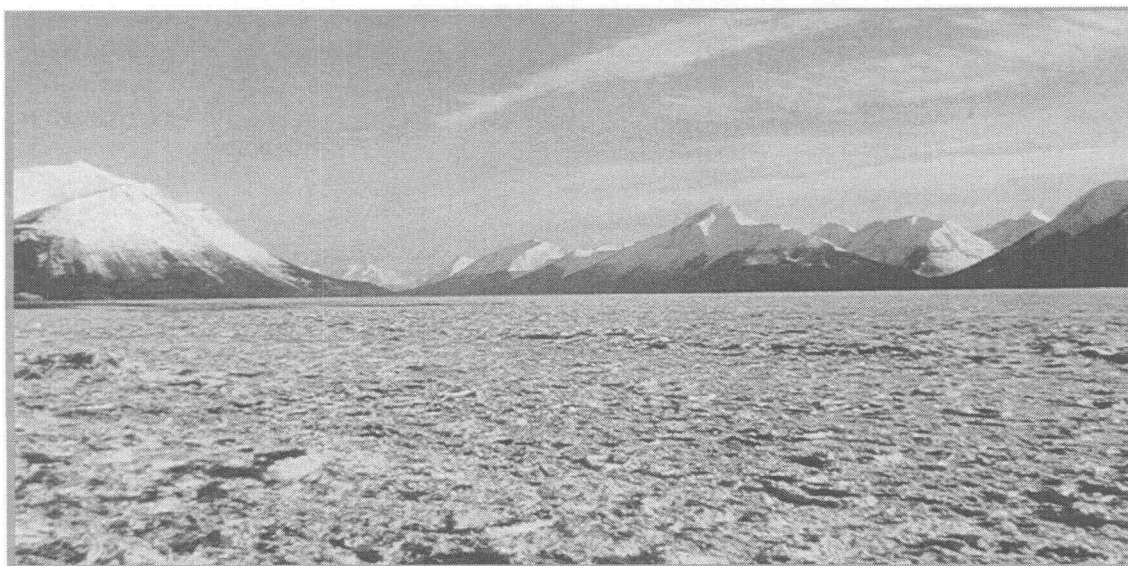


Management Unit 5

East Turnagain Arm

BACKGROUND

This management unit includes state tidelands at the head of Turnagain Arm, isolated parcels of state uplands near Girdwood and Portage, and state selected land in Bear Valley.



Tidelands along eastern Turnagain Arm

This management unit consists of five subunits:

- Subunit 5a** Subunit 5a includes approximately 10,000 acres of state tidelands. These tidelands are subject to very strong tidal currents and tidal bores. The extensive mudflats exposed at low tide are unstable and dangerous. Land in this subunit subsided as much as six or seven feet during the 1964 earthquake, causing much of the previous upland area to fall below sea level. Continuous uplifting since the earthquake, combined with silt deposition, has restored much of this area close to its original level.
- This subunit is used heavily for recreation by windsurfers and kayakers, and is within the viewshed of one of the most scenic and travelled roads in the state—the Seward Highway. Motorists travelling along the Seward Highway stop frequently to view wildlife, including beluga and killer whales in the waters of Turnagain Arm. This subunit is occasionally used by waterfowl hunters and trappers. Tidelands along Turnagain Arm and within the mouth of the Twentymile River are heavily used for dipnetting of hooligan smelt during May and June.
- The Seward Highway/Turnagain Arm scenic corridor and tidelands near Girdwood at the mouth of Glacier Creek have been identified as an Area Meriting Special Attention by the Anchorage Coastal Management Plan.
- This subunit also includes four parcels in the old Portage townsite. The townsite dropped below sea level after the 1964 earthquake. Even though the townsite has been uplifted over the years since the earthquake, these parcels are still periodically flooded by tidal waters.
- Subunit 5b** Subunit 5b is currently used by the Alaska Department of Transportation and Public Facilities (DOT&PF) for its Girdwood maintenance yard.
- Subunit 5c** Subunit 5c is a 3.3 acre parcel straddling California Creek along Crow Creek Road in Girdwood. This parcel is currently subject to a management agreement with the Division of Parks and Outdoor Recreation (DPOR).
- Subunit 5d** Subunit 5d is a 102 acre parcel adjacent to the Seward Highway near Virgin Creek. This parcel is currently being used by DOT&PF for material extraction, and has high gravel potential.



Courtesy Anchorage Museum of History & Art

Roof of snow shed covering railroad tracks at Milepost 75.5,
October 1919, looking east toward Portage Valley

Subunit 5e

Subunit 5e is a 320 acre state selection in Bear Valley near Portage Lake. This parcel straddles the Alaska Railroad, between the two tunnels to Whittier. The state selected land in Bear Valley because of the strategic location between the Seward Highway Corridor and Whittier. The selection includes some of the only developable land between Portage and Whittier. The parcel was selected for community expansion and recreation purposes, either to aid in improving access to Whittier, or to provide additional land to accommodate future growth as a result of improved access to Whittier.

Subunit 5f

Subunit 5f is a 197 acre parcel adjacent to the Seward Highway near Kern Creek. Portions of this parcel have been used for material extraction, and the parcel generally has limited potential for rock.

MANAGEMENT INTENT

Subunit 5a

Tidelands and submerged lands within this subunit will be retained in public ownership and managed for multiple use. The management emphasis for this subunit is to

- 1) protect the high scenic values of the Turnagain Arm/Seward Highway scenic corridor;
- 2) continue offering high quality recreational opportunities; and
- 3) maintain and enhance wildlife habitat.

Subunit 5a will remain open to mineral entry. It is anticipated that there will be a need to use tidelands within this management unit for highway and railroad expansion purposes. This plan does not preclude the use of tidelands in this management unit for transportation related uses.

Subunit 5b

This subunit will continue to be managed for transportation related uses.

Subunit 5c

This subunit will continue to be managed for recreation purposes. This subunit is suited for an access site for a trailhead to the California Creek Trail and the local municipal trail system.

Subunit 5d

This subunit will be managed for materials extraction while protecting, to the extent possible, the scenic values of the Seward Highway Scenic Corridor.

Subunit 5e

If the state receives ownership of this subunit, this subunit should be managed to accommodate future state needs as a result of improved access to Whittier. Public access should be provided across this subunit to US Forest Service lands. The Division of Land should resolve the location of access with the US Forest Service at the time of conveyance.

Subunit 5f

This subunit is highly visible from much of the Seward Highway Scenic Corridor. Therefore other alternative material sources should be considered before utilizing this subunit. If a comparable material source is found and made available to DOT&PF, then this subunit should be dropped as a materials source. If this subunit is to be used for materials extraction, every effort should be made to screen the activity from the highway corridor to the extent possible.

Shorelands

Some shorelands within this management unit—Portage Creek, Portage Lake, and Placer Creek—may be used by DOT&PF to facilitate the Whittier Access Project, as determined by the environmental impact statement currently being developed for the project.

Other isolated parcels

The four state-owned parcels in the old Portage townsite will be managed as part of Subunit 5a.

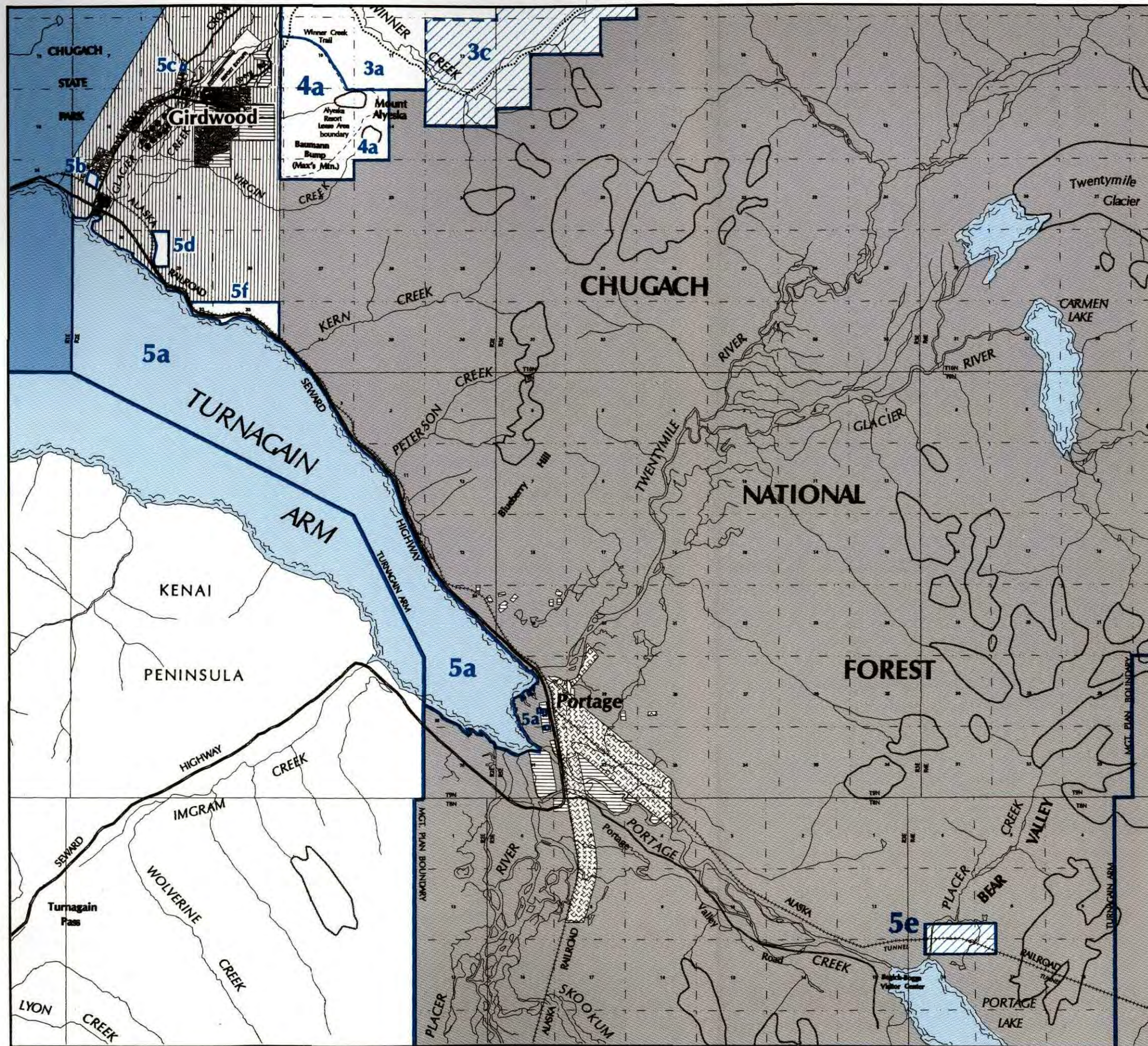
LAND USE SUMMARY CHART

Management Unit 5: East Turnagain Arm

Subunit	Surface Land Use Designation	Subsurface	Prohibited Surface Use	Comments
5a Tidelands 10,000 acres	Public recreation, Wildlife habitat	Open	Land disposals**	
5b DOT&PF maintenance yard 13.6 acres	Transportation	Open	Land disposals**	ILMA to DOT&PF
5c California Creek 3.3 acres	Public recreation	Open	Land disposals**	ILMA to DPOR
5d Virgin Creek 102 acres	Materials	Open	Land disposals**	Managed under ILMA to DOT&PF
5e Bear Valley 320 acres	Resource management	*	Land disposals**	State selected
5f Kern Creek 197 acres	Materials	Open	Land disposals**	

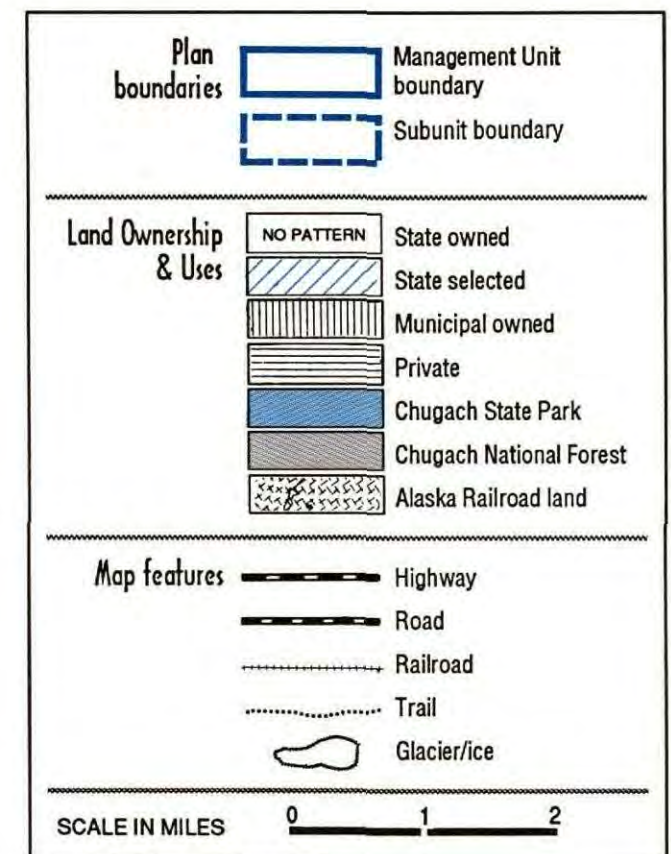
* Management decisions to be made when DNR is ready to take conveyance.

**Land disposals are disposals of state land to private ownership as authorized by AS 38.05.057 (disposals of land by lottery), AS 38.08 (homesites), and AS 38.09 (homesteads). For the purposes of this plan, land disposals do not include leasing, and do not preclude transfer of state land to another agency or municipality.



Management Unit 5.

East Turnagain Arm



CHAPTER 4

Implementation

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Chapter 4

IMPLEMENTATION

INTRODUCTION

This chapter discusses specific actions necessary to implement the plan. These actions include recommendations for adding areas to Chugach State Park, proposed state land selections, land use classifications, mineral orders, and the Public Trust Doctrine. This chapter also explains how municipal selections will be dealt with.

AREAS RECOMMENDED FOR ADDITION TO CHUGACH STATE PARK

Several areas within the Turnagain Arm Management planning area are recommended for addition to Chugach State Park. These areas can only be added to the State Park by an act of the legislature. These recommendations are based on the outstanding public values in the proposed areas and the state's intent to retain these areas in public ownership.

Subunit 1b

All of Subunit 1b is recommended for legislative addition to Chugach State Park. This subunit consists of six small parcels totalling 433 acres. All of the parcels are currently managed by the Division of Parks & Outdoor Recreation (DPOR) under administrative actions, and are either adjacent to, or surrounded by the state park. Adding these parcels to the state park through legislation would improve state land management efficiency. Here are more detailed descriptions of these parcels:

McHugh Creek

(SW1/4 Sec. 20, T11N R2W SM, ADL 225945, 5 acres) This parcel is currently managed by DPOR under an ILMA. The recently developed McHugh Lake Trail traverses this parcel.

Rainbow

(Secs. 27&28, T11N R2W SM, OSL 888 & 886, 317 acres) Three parcels were conveyed to the state with the intent that they be used added to Chugach State Park. Another parcel (W1/2 SW1/4 Sec 28, T11N R2W SM, 80 acres) was omitted from the state park because of a legal error in the park's enabling legislation.

Bird

(Sec. 9 T10N R1W SM, ADL 226191, 31 acres) This parcel is currently managed by DPOR under an Interagency Land Management Agreement (ILMA). This parcel is the site of the Bird Creek Campground, and has valuable scenic and recreational values.

Subunit 2a

Subunit 2a includes approximately 5,500 acres within the Crow Pass Management Unit. The subunit includes Crow Pass and the mountainous ridge to the west of Crow Creek. This subunit is adjacent to the state park, and would be a logical extension of the park to include the highly visible and scenic mountain crest to the west and north of the Crow Creek Valley, and the historic Crow Pass (Iditarod National Historic) Trail.

STATE SELECTIONS

The following are three state land selections within the planning area that DNR will defer asking for conveyance. Other state land selections in the planning area are priorities for conveyance.

1) Crow Pass (Subunits 2a and 2b)

The state selection on the Crow Pass subunits should be retained. State ownership would consolidate state land ownership and improve the efficiency of state land management.

2) Upper Winner Creek (Subunit 3c)

This subunit may play an important role in future resort development in the Glacier/Winner Creek area.

3) Bear Valley (Subunit 5e)

The state selected land in Bear Valley because of the strategic location between the Seward Highway Corridor and Whittier. The 320 acre selection straddles the Alaska Railroad alignment, and includes some of the only developable land between Portage and Whittier. The parcel was selected for community expansion and/or recreation purposes, either to aid in improving access to Whittier, or to provide additional land to accommodate future growth as a result of improved access to Whittier.

The Department of Transportation and Public Facilities is currently evaluating the feasibility of improving access to Whittier. DNR should not ask for conveyance to this selection until enough information is available to know how land use patterns will change as a result of improved access to Whittier.

LAND USE CLASSIFICATIONS

This plan establishes land use designations for state land in the Turnagain Arm planning area. To implement the plan on state land, DNR must classify land into the classification categories listed in 11 AAC 55 in a way that reflects the plan intent. Land classifications are recorded on state status plats, and are the formal record of the primary uses for which each parcel of state land will be managed. The plan serves as the final finding by the Commissioner of DNR for land classifications for state land in the Turnagain Arm planning area.

Except for lands selected by the Municipality of Anchorage the land use designations in Chapter 3 will be converted to classifications shown in Table 4-1.

<p style="text-align: center;">TABLE 4-1</p> <p style="text-align: center;">Conversion of</p> <p style="text-align: center;">Land Use Designations to Classifications</p>	
Designation:	Classification:
Commercial recreation	Public Recreation Land
Materials	Material Land
Public recreation	Public Recreation Land
Resource management	Resource Management Land
Transportation	Reserved Use Land
Wildlife habitat	Wildlife Habitat Land

Land available for selection by the Municipality of Anchorage will be classified as Settlement Land regardless of the land use designation set by this plan. After this land conveyance process has been completed, any land that is not conveyed to the Municipality of Anchorage will be reclassified according to Table 4-1, using the land use designations set by this plan. See also *Municipal Selections* in this chapter.

MINERAL ORDERS

Some state lands within the planning area have been closed to mineral entry prior to the development of this plan. In addition, this plan closes six small parcels within Chugach State Park to mineral entry, and reduces the area covered by a mineral opening order which is scheduled to take effect in less than ten years (see **Appendix B, Mineral Orders**). On the following page is a summary of the existing mineral orders, and of the mineral orders implemented by this plan.

Existing Mineral orders

Mineral Closing Order #593 was implemented in April of 1991. This mineral order closed most of the Glacier/Winner Creek area and the Mt Alyeska Resort area to locatable mineral entry, because of potential conflicts with existing and future resort development. Mineral Opening Order # 603 was implemented concurrently, and will reopen the closed lands in ten years from the date that the land is conveyed to the state. This provides a "sunset clause" to the mineral closing order in case resort development does not occur. Most of Management Unit 3 (4,525 acres) was conveyed to the state on April 3, 1992. This land will be opened to mineral entry on April 3, 2002, unless a lease is issued by the state for the development of a ski resort, or the mineral order is amended.

Both Mineral Closing Order #593 and Mineral Opening Order #603 were concurrently amended in October of 1991 to include additional land selections in the upper Glacier Creek drainage.

Mineral Closing Order #593 was again amended in November of 1993 to include a portion of the Mt. Alyeska Resort Lease area not covered by the original mineral closing order. Mineral Opening Order #603 was not amended to cover this area.

Mineral Orders implemented by this plan

This plan implements Mineral Closing Order #710 to close to mineral entry six parcels of land near the Seward Highway (Subunit 1b, totalling 433 acres). These parcels are surrounded by Chugach State Park, and are recommended for addition to the state park (see **Areas Recommended for Addition to Chugach State Park**, in this Chapter). The final finding and maps for this mineral order are in **Appendix B, Mineral Orders**.

This plan also amends Mineral Opening Order #603 to exclude the Alyeska Resort Lease area completely. Because resort development already exists here, the area should remain closed to mineral entry. It would create a conflict if the mineral closing order were to expire in ten years. The final finding and maps for the amendment to this mineral order are in **Appendix B, Mineral Orders**.

PUBLIC TRUST DOCTRINE

Under the Alaska Constitution, the state has special duties and management constraints with respect to state-owned land underlying navigable waters. The Alaska Constitution contains provisions embracing the principles commonly known as the public trust doctrine. That doctrine, as it has evolved in court decisions over hundreds of years, requires the state to exercise authority to ensure that the paramount rights of the public to use navigable waters for navigation, commerce, recreation, and related purposes is not substantially impaired.

The Alaska Constitution (Article VIII, sections, 1, 2, 3, 6, 13, and 14) and Alaska Statutes (38.05.127 and 38.05.128) are the legal basis for applying the public trust doctrine in Alaska. This doctrine guarantees the public right to engage in such things as commerce, navigation, fishing, hunting, swimming, and protection of areas for ecological study.

The Constitution provides that "Free access to the navigable or public waters of the state, as defined by the legislature, shall not be denied any citizen of the United States or resident of the State, except that the legislature may by general law regulate and limit such access for other beneficial uses or public purposes." Eliminating private upland owners' reasonable access to navigable waters may result in compensation.

Because 99 percent of Alaska was in public ownership at statehood, both federal and state laws providing for the transfer of land to private parties also provide for public access to navigable waters. Implementing the state constitutional guarantee of access to navigable waters under Article VII, Section 14, AS 38.05.127 requires that the state commissioner of natural resources must "provide for the specific easements or rights-of-way necessary to ensure free access to and along the body of water, unless the commissioner finds that regulating or eliminating access is necessary for other beneficial uses or public purposes."

It has never been held that any lands normally subject to the public trust doctrine in Alaska are exempt from it, including land occupied and developed.

These statutes and concepts are considered and used throughout this plan. Any management actions shall be consistent with the public trust doctrine as defined by the Alaska Constitution, statutes, court decisions, and public involvement.

MUNICIPAL SELECTIONS

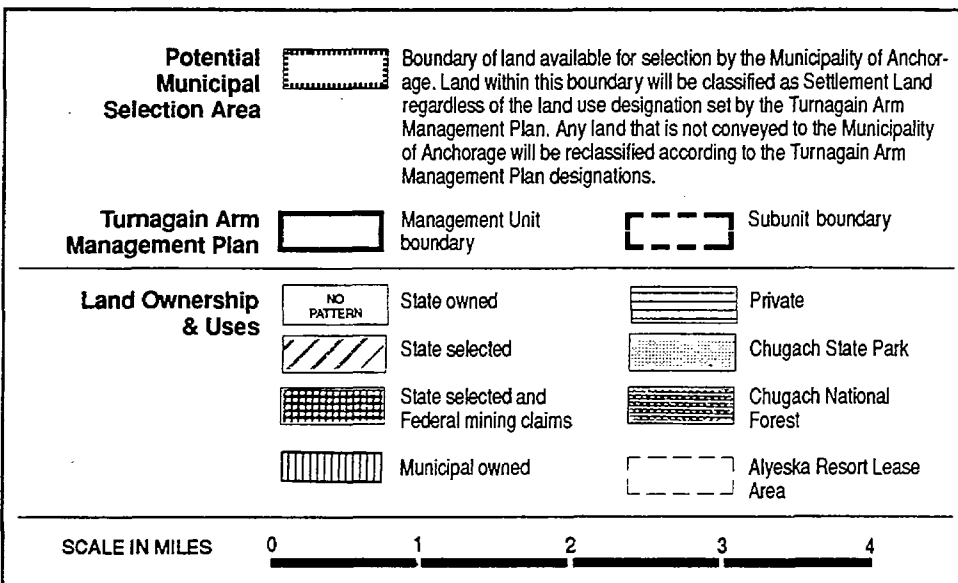
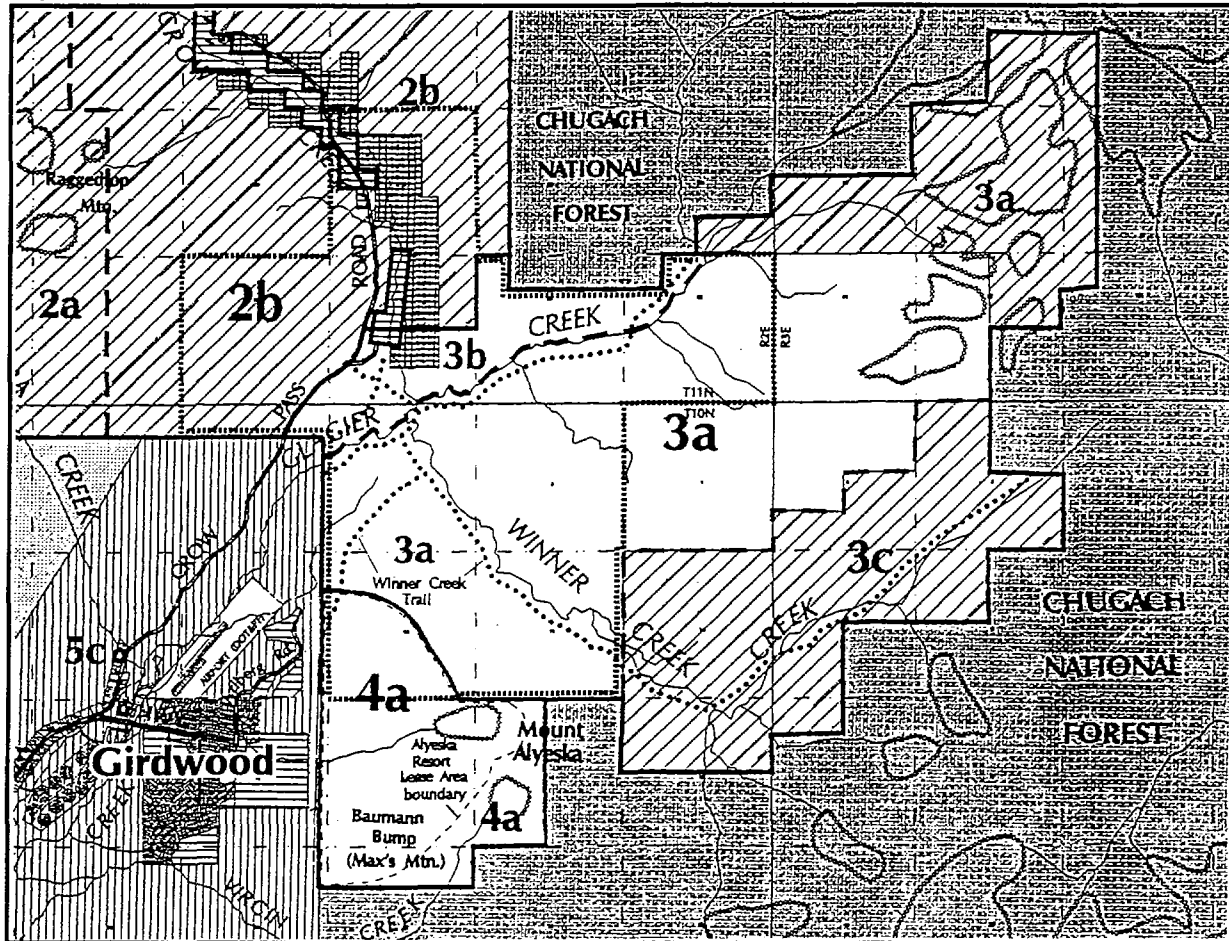
On November 25, 1986, the Municipality of Anchorage and the State of Alaska entered into an "Agreement for the Conveyance of Lands of the State of Alaska to the Municipality of Anchorage, and Settlement of Land-Related Issues." This agreement was necessary because there was not enough suitable state-owned land available to fulfill the Municipality of Anchorage's municipal land entitlement, as allowed by the 1978 Municipal Entitlement Act. As part of that agreement, the Municipality of Anchorage was entitled to select up to 1,000 acres of land from state selected land in the Chugach National Forest in the upper Glacier Creek valley.

The Municipality of Anchorage is in the process of making final its land selection. The municipality is expected to focus its selection on the more developable valley bottom lands at the base of the Glacier/Winner Creek mountain massif. If resort development were to happen, the municipality would be responsible for resort base facilities, while DNR would be responsible for managing the upper mountain—ski trails, lifts, trams, etc.

To facilitate the transfer of land to the municipality, this plan will classify the area of potential municipal selections as Settlement Land (*see Map 4-1 on page 4-7*). Please refer to ***Land Use Classifications*** in this chapter.

Map 4-1

Land Available for Selection by the Municipality of Anchorage



INSTREAM FLOW RESERVATIONS

Instream Flow reservations establish a water right for a certain amount of flow in a stream or water-level in a lake. Instream flow may be reserved for the following purposes: fish and wildlife habitat, migration and propagation; recreation and park purposes; navigation and transportation; and sanitary and water quality purposes (Alaska Statutes 46.15.145).

Within the Turnagain Arm Planning Area, Glacier, Crow, Winner, Virgin, and Moose Meadows creeks may require instream flow reservations.

The relative importance and method of preserving instream flow in these rivers must be determined by further study. Examination of these rivers should be jointly undertaken by the DNR divisions of Land and Mining and Water Management, and the Alaska Department of Fish and Game. Further study may identify other rivers requiring instream flow reservations.

RECOMMENDATIONS FOR OTHER AGENCIES

Department of Transportation and Public Facilities

To the extent that funding and physical constraints allow, the Department of Transportation & Public Facilities should continue maintaining and improving the Seward Highway between Anchorage and Girdwood to ensure the safest possible travel for motorists, especially as traffic levels increase as a result of resort development.

Division of Parks and Outdoor Recreation

When updating the Chugach State Park Management Plan, the Division of Parks & Outdoor Recreation should take into consideration the goals and policies of the Turnagain Arm Management Plan. The management of Chugach State Park will need to respond accordingly if a major destination resort is developed in the Turnagain Arm/Girdwood area.

United States Forest Service

When updating the Chugach National Forest Management Plan, the U.S. Forest Service should take into consideration the goals and policies of the Turnagain Arm Management Plan. The management of the Chugach National Forest in the Turnagain Arm area will need to respond accordingly if a major destination resort is developed in the Turnagain Arm/Girdwood area.

PROCEDURES FOR PLAN REVIEW AND CHANGES

The land use designations, policies, implementation actions, and management guidelines of this plan may be changed if conditions warrant. The plan will be updated periodically as new data and new technologies become available and as changing social or economic conditions place different demands on state lands.

Plan Review

An interagency planning team should review the plan approximately once every five to ten years, to determine if conditions warrant updating the plan.

Plan Changes

Changes to the plan will be made according to policies outlined in Title 11 of the Alaska Administrative Code (11 AAC 55.030(f)). 11 AAC 55 describes three kinds of changes: plan amendments, special exceptions, and minor changes. The current version of the relevant sub-section of 11 AAC 55.030 is given below.

Plan amendments require a written decision and public notice. If warranted by the degree of controversy, public meetings may be held before making a decision on a plan amendment. Special exceptions require a written decision, public notice and, if appropriate, public meetings. Minor changes are made through a written decision and do not require public review.

Some policies in the plan, such as those modified by the terms “feasible and prudent”, “feasible”, and “should” are written to allow exceptions if the condition in the policy are met. Most exceptions to guidelines are neither revisions or changes to the plan.

For procedural details, see the Division of Land Procedures Manual.

The current version of 11 AAC 55.030(f) provides:

- “1. A revision to a land use plan is subject to the planning process requirements of AS 38.04.065. For the purposes of this section and AS 38.04.065, a “revision” is an amendment or special exception to a land use plan as follows:
 - a. An “amendment” permanently changes the land use plan by adding to or modifying the basic management intent for one or more of the plan’s subunits or by changing its allowed or prohibited uses, policies, or guidelines. For example, an amendment might close to new mineral entry an area that the plan designated to be open, allow a land use in an area where the plan prohibited it, or allow land to be opened to homestead entry in an area that the plan designated for retention in public ownership.

- b. A “special exception” does not permanently change the provisions of a land use plan and cannot be used as the basis for a reclassification of the subunit. Instead, it allows a one-time, limited-purpose variance of the plan's provisions, without changing the plan's general management intent or guidelines. For example, a special exception might be used to grant an eligible applicant a preference right under AS 38.05.035 to purchase land in a subunit designated for retention in public ownership. A special exception might be made if complying with the plan would be excessively burdensome or impractical, if compliance would be inequitable to a third party, and if the purposes and spirit of the plan can be achieved despite the exception.
- 2. A minor change to a land use plan is not considered a revision under AS 38.04.065. A “minor change” is a change that does not modify or add to the plan's basic intent, and that serves only to clarify the plan, make it consistent, facilitate its implementation, or make technical corrections."

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Appendix A

GLOSSARY

AAC. Alaska Administrative Code.

ACMP. Alaska Coastal Management Plan.

ADF&G. Alaska Department of Fish and Game

Access. A way or means of approach. Includes transportation, trail, easements, rights of way, and public use sites.

Allow, Allow(ed), (able) Use. A use that may be authorized in a unit or subunit as long as the use is consistent with the definitions of the designation(s) that apply to the unit or subunit; management intent for the unit or subunit; plan guidelines; and statutes and regulations. The use of this term does not in itself mandate DNR to approve an application, or to approve an existing use that requires prior authorization. The decision to authorize uses is made during the application review process.

Amendment. An amendment permanently changes the land use plan by adding to or modifying the basic management intent for one or more of the plan's subunits or by changing its allowed or prohibited uses, policies, or guidelines. For example, an amendment might close to new mineral location an area that the plan designated to be open, allow a land use in an area where the plan prohibited it, or allow land to be opened to homestead entry in an area that the plan designated for retention in public ownership.
[11 AAC 55.030(f)(1)(A)]

AMSA. See *Area Meriting Special Attention*.

Anadromous Fish Stream. A river, lake, or stream from its mouth to its uppermost reach including all sloughs and backwaters adjoining the listed water, and that portion of the stream bed or lake bed covered by ordinary high water. Anadromous streams are shown in "The Atlas to the Catalog of Waters Important for Spawning, Rearing, or Migration of Salmon" (referred to as the Anadromous Fish Stream Catalog) compiled by ADF&G.

Area Meriting Special Attention (AMSA). A delineated geographic area within the coastal area which is sensitive to change or alteration and which, because of plans or commitments or because a claim on the resources within the area delineated would preclude subsequent use of the resources by a conflicting or incompatible use, warrants special management attention; or which, because of its value to the general public, should be identified for current or future planning, protection, or acquisition.
[AS 46.40.210(1)]

Authorized Use. A use allowed by DNR by permit or lease (See also Generally Allowed Use).

AS. Alaska Statute.

Avoid. To keep from happening or to keep away from.

BLM. The federal Bureau of Land Management.

Buffer. An area of land between two activities or resources used to reduce the effect of one activity upon another.

Classification. Land classification identifies the purposes for which state land will be managed. All classification categories are for multiple use, although a particular use may be considered primary. Land may be given a total of three classifications in combination.

Closed to Mineral Location. Areas where the staking of new mineral locations is prohibited because mining has been determined to be in conflict with significant surface uses. Existing mineral locations that are valid at the time the mineral orders are signed are not affected by mineral closures.

Commissioner. The Commissioner of the Alaska Department of Natural Resources. [11 AAC 69.900]

Consultation. Process followed by the Department of Natural Resources under existing statutes, regulations and procedures to inform other groups of the intention to take some action, and seek their advice or assistance in deciding what to do. Consultation is not intended to be binding on a decision. It is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise.

DEC. Alaska Department of Environmental Conservation.

Designation. A category of land allocation determined by a land use plan. Designations identify the primary and co-primary uses for state land.

Developed Recreational Facility. Any structure or facility that serves either public or private recreational needs.

DGGS. Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys.

Dispersed Recreation. Recreational pursuits that are not site specific in nature, such as boating or wildlife viewing.

Disposal. See *Land Disposal*.

DNR. Alaska Department of Natural Resources.

DL. Alaska Department of Natural Resources, Division of Land.

DOM. Alaska Department of Natural Resources, Division of Mining

DPOR. Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation.

DOT&PF. Alaska Department of Transportation and Public Facilities.

DOW. Alaska Department of Natural Resources, Division of Water.

Easement. An interest in land owned by another, that entitles its holder to a specific limited use.

Estuary. A semi-closed coastal body of water which has a free connection with the sea and within which seawater is measurably diluted with fresh water derived from land drainage. [6 AAC 80.900(6)]

Feasible. Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, technical, and safety factors.

Generally Allowed Use. An activity conducted on state land managed by the Division of Land, that is not in a special category or status. For the most part these uses are allowed for 14 days or less, and a permit is not required.

Goal. A statement of basic intent or general condition desired in the long term. Goals usually are not quantifiable and do not have specified dates for achievement.

Guideline. A course of action that must be followed by DNR resource managers or which is required of land users when the manager permits, leases, or otherwise authorizes the use of state land or resources. Guidelines range in their level of specificity from giving general guidance for decision making or identifying factors that need to be considered, to setting detailed standards for on-the-ground decisions. Some guidelines state the intent that must be followed and allow flexibility in achieving it.

ILMA. See *Interagency Land Management Agreement/Transfer*.

ILMT. See *Interagency Land Management Agreement/Transfer*.

Improvements. Buildings, wharfs, piers, dry docks, and other similar types of structures permanently fixed to the uplands, tidelands, or submerged lands that were constructed and/or maintained by the applicant for business, commercial, recreation, residential, or other beneficial uses or purposes. In no event shall fill be considered a permanent improvement when placed on the tidelands solely for the purposes of disposing of waste or spoils. However, fill material actually utilized for beneficial purposes by the applicant shall be considered a permanent improvement. [11 AAC 62.840]

Instream Flow Reservation. The legal water right, reserving water for instream uses such as fish and wildlife and their habitat, recreation, navigation, and water quality.

Interagency Land Management Agreement/Transfer (ILMA/ILMT). An agreement between DNR and other state agencies that transfers some land management responsibility to these other agencies.

Land. See *State Land*.

Land Disposal. Disposal of state land to private ownership as authorized by AS 38.05.057 (disposal of land by lottery), AS 38.08 (homesites), and AS 38.09 (homesteads). For the purposes of this plan, land disposals do not include leasing, and do not preclude transfer of state land to another agency or municipality.

Land Use Designation. See *Designation*.

Lease. A Department of Natural Resources authorization for the use of state land according to terms set forth in AS 38.05.070-105.

Legislative Designation. An action by the state legislature that sets aside a specific area for special management actions and ensures the area is kept in public ownership.

Locatable Mineral. Locatable minerals include both metallic (gold, silver, lead, etc.) and non-metallic (fluorspar, asbestos, mica, etc.) minerals.

Maintain. Minimize significant adverse impacts to, or keep in a condition of, good repair and good order.

Management Intent Statements. The statements that define the department's near- and long-term management objectives and the methods to achieve those objectives.

Materials. *Materials* include but are not limited to common varieties of sand, gravel, rock, peat, pumice, pumicite, cinders, clay, and sod.

Mean High Water. The tidal datum plane of the average of all the high tides, as would be established by the National Geodetic Survey at any place subject to tidal influence [from 11 AAC 53.900(14)]. Mean high water is the dividing line between uplands and tidelands.

MCO. See *Mineral Closing Order*.

Mean Low Water. The tidal datum plane of the average of all the low tides, as would be established by the National Geodetic Survey at any place subject to tidal influence [from 11 AAC 53.900(16)].

Mineral Closing Order (MCO). All state lands are open for the prospecting and production of locatable minerals unless the lands are specifically closed to mineral entry. The commissioner of the Department of Natural Resources may close lands to mineral entry if a finding has been made that mining would be incompatible with significant surface use on state land [AS 38.05.205]. A significant surface use of the land has been interpreted by DNR to include not only residential and commercial structures, but also fish and wildlife habitat, recreational, and scenic values.

Mineral Entry. Acquiring exploration and mining rights under AS 38.05.185 - 38.05.275.

Minimize. To reduce to the smallest possible amount, size, extent, or degree.

Mining. Any structure or activity for commercial exploration and recovery of minerals, including, but not limited to resource transfer facilities, camps, and other support facilities associated with mineral development. The term “mining” does not refer to offshore prospecting.

Mining Claim. Rights to deposits of minerals subject to AS 38.05.185 - 38.05.275 in or on state land that is open to claim staking may be acquired by discovery, location and recording as prescribed in AS 38.05.185 - 38.05.275. The locator has the exclusive right of possession and extraction of the minerals subject to AS 38.05.185 - 38.05.275 lying within the boundaries of the claim (AS 38.05.185).

Minor Change. A minor change to a land use plan is not considered a revision under AS 38.04.065. A minor change is a change that does not modify or add to the plan's basic intent, and that serves only to clarify the plan, make it consistent, facilitate its implementation, or make technical corrections. [11 AAC 55.030]

Multiple Use. Means the management of state land and its various resource values so that it is used in the combination that will best meet the present and future needs of the people of Alaska, making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; it includes

- a) the use of some land for less than all of the resources, and
- b) a combination of balanced and diverse resource uses that takes into account the short-term and long-term needs of present and future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific, and historic values. [AS 38.04.910]

Navigable. Waterbodies that are capable of transporting people or goods. “Navigable water” means any waters of the state forming a river, stream, or lake. The land beneath these waters is owned by the state. These waterbodies extend to the ordinary high water mark (usually the vegetation line). The adjacent uplands may be in private ownership and not available for use without permission. Federally determined navigable waterbodies are those administratively determined navigable by the federal Bureau of Land Management (BLM). State determined navigable waterbodies are those determined navigable by the state (usually these are waterbodies BLM has not yet determined navigable, or are waterbodies previously determined non-navigable, but where the state disagreed with BLM criteria).

NFCG. National Forest Community Grant, the name used for state selections within national forests. These selections are authorized by section 6(a) of the Statehood Act and are commonly referred to as National Forest Community Grant selections.

Ordinary High Water Mark. The mark along the bank or shore up to which the presence and action of the nontidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics [11 AAC 53.900(23)].

Permit. A Department of Natural Resources authorization for use of state land or water according to terms set forth in 11 AAC 96 and 11 AAC 93.

Personal Use Timber Harvest. Timber harvest for use by the harvester. Wood harvested for personal use may not be sold, bartered, or used for commercial purposes (11 AAC 71.050). Personal use wood may not be used to build lodges or other commercial facilities, or to heat these facilities during the period of commercial operation.

Policy. An intended course of action or a principle for guiding actions. Department policies for land and resource management in this plan include goals, management intent statements, management guidelines, land use designations, implementation plans and procedures, and various other statements of the Department's intentions.

Prohibited Use. A use not allowed in a management unit or subunit because of conflicts with the management intent, designated uses, or management guidelines. Uses not specifically prohibited (or designated) in a management unit or subunit are allowed if compatible with the primary use management intent statements for the unit or subunit and plan guidelines. Changing a prohibited use to an allowable use requires a plan amendment.

Protect. Avoid significant adverse impacts.

Public Use. Any human use of state land, including commercial and non-commercial uses.

Public Use Cabin. A cabin owned or built by the state on state land that is managed by DPOR for the benefit of the residents of the state and visitors to the state.

Public Trust. A common law doctrine that requires the state to manage tidelands, shorelands, and submerged lands for the benefit of the people so that they can engage in such things as navigation, commerce, fishing, and other uses.

Recreation. Any activity or structure for recreational purposes, including but not limited to, hiking, camping, boating, anchorage, access points to hunting and fishing areas, and sightseeing. "Recreation" does not refer to subsistence or sport hunting and fishing.

Retained Land. Uplands, shorelands, tidelands, submerged lands, and water that are to remain in state ownership.

Right-of-Way. The legal right to cross the land of another.

RS 2477. An historic federal statute, repealed in 1976, that granted transportation rights-of-way on unappropriated and unreserved federal land. These rights-of-way are established by public use or construction.

Shall. Same as *will*.

Shorelands. Land belonging to the state which is covered by nontidal water that is navigable under the laws of the United States up to the ordinary high water mark as modified by accretion, erosion, or reliction [AS 38.05.965]

Should. States intent for a course of action or a set of conditions to be achieved. Guidelines modified by the word "should" state the plan's intent and allow the manager to use discretion in deciding the specific means for best achieving the intent or whether particular circumstances justify deviation from the intended action or set of conditions. A guideline may include criteria for deciding if such a deviation is justified.

State Land. All references to state lands means all land including shorelands, tide-lands and submerged lands or resources belonging to or acquired by the state. "State Land" also includes land selected by the state and any interest owned by the state in land. From AS 38.05.965(19) and 38.05.230(9)(A)(B)(C).

State-owned Land. See *State Land*.

State-selected Land. Federally owned land that is selected by the State of Alaska, but not yet tentatively approved.

Submerged Land. Land covered by tidal water between the line of mean lower low water and seaward to a distance of three geographical miles or further as may hereafter be properly claimed by the state and lands under inland waters landward of the closing line below mean lower low water.

Suitable. Land that is physically capable of supporting a particular type of resource development.

Tideland. Land that is periodically covered by the ebb and flow of tidal water between the elevation of mean high water and mean lower low water [AS 38.05.965]

Unsuitable. Land that is physically incapable of supporting a particular type of resource development (usually because that resource doesn't exist in that location).

Upland. Land above the mean high water line or the ordinary high water mark.

USFS. United States Forest Service.

Viewshed. Viewsheds are surfaces visible from a viewpoint on a road corridor or from marine waters. Viewsheds may be determined in the field by marking them on U.S.Geologic Service topographic quadrangles.

Water. All water of the state, surface and subsurface, occurring in a natural state, except mineral and medicinal waters. Mineral and medicinal waters are reserved by the federal government under PLO No. 399, and geothermal fluid as defined in AS 41.06.060.

Water-dependent. From 6 AAC 80.900(17): a use or activity which can be carried out only on, in, or adjacent to water areas because the use requires access to the waterbody.

Water-related. From 6 AAC 80.900(18): a use or activity which is not directly dependent upon access to a water body, but which provides goods or services that are directly associated with water-dependence and which, if not located adjacent to water, would result in a public loss of quality in the goods or services offered.

Wetlands. Includes both freshwater and saltwater wetlands. *Freshwater wetlands* means those environments characterized by rooted vegetation which is partially submerged either continuously or periodically by surface freshwater with less than .5 parts per thousand salt content and not exceeding three meters in depth. *Saltwater wetlands* means those coastal areas along sheltered shorelines characterized by salt tolerant, marshy plants and large algae extending from extreme low tide to an area above extreme high tide which is influenced by sea spray or tidally induced water table changes.

Will. Requires a course of action or a set of conditions to be achieved. A guideline modified by the word *will* must be followed by land managers and users. If such a guideline is not complied with, a written decision justifying the noncompliance is required. (See Chapter 4, *Procedures for Plan Review and Changes: Special Exceptions*).

Appendix B

Mineral Orders

This appendix contains the mineral orders implemented by this plan — Mineral Order #603A2 (page B-2), and Mineral Closing Order #710 (page B-6). On page B-14 is a map showing lands closed to mineral entry by Mineral Closing Order #593, including amendments #593A1 and #593A2.

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF LAND

MINERAL ORDER 603A2

*** Closing Lands to Mineral Entry *** Opening Lands to Mineral Entry

I. Name GLACIER/WINNER CREEK DRAINAGE

II. This mineral order is based upon the attached Commissioner's Finding and the written documentation contained in:

Area Plan: _____ Dated _____

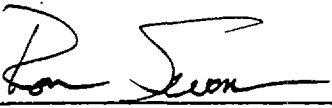
Management Plan: TURNAGAIN ARM Dated 10/28/94

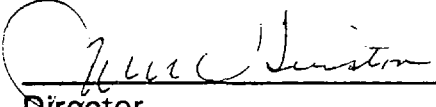
Site Specific Plan: _____ Dated _____

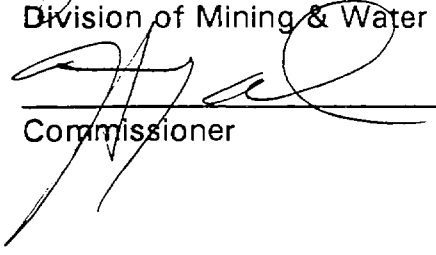
Other: _____ Dated _____

III.	<u>File Number</u>	<u>Legal Description</u>	<u>Acreage</u>
	ADL 226089	(See Attachment A)	1,060.00

IV. This order is subject to valid existing rights and issued under the authority granted by AS 38.05.185 - 38.05.275 to the Department of Natural Resources. The above described lands are hereby *** closed *** opened to entry under the locatable mineral and mining laws of the State of Alaska.
*** See Attachment A.

Concur:  10/28/94
Director Date
Division of Land

Concur:  10/28/94
Director Date
Division of Mining & Water Management

Approved:  10/28/94
Commissioner Effective Date

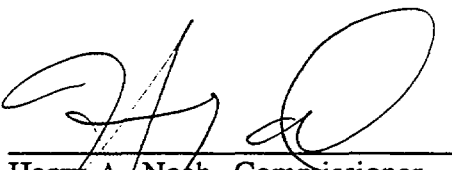
FINDING OF THE COMMISSIONER
MINERAL OPENING ORDER 603, AMENDMENT NO. 2
AS 38.05.185(a)

:
:
:

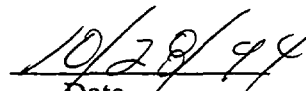
On April 17, 1991, Mineral Closing Order (MCO) No. 593, closed approximately 8,000 acres in the Glacier/Winner Creek drainage in the Girdwood area to new mineral entry in conjunction with future recreation/tourist development focused upon a ski area and resort. MCO 593 has an expiration date of ten years from the date that the State of Alaska receives conveyance of the land from the Bureau of Land Management by tentative approval or patent, whichever comes first. It will expire on that date if within the ten-year period, a lease has not been issued by the state for the development of a ski resort. Mineral Opening Order No. 603, which was executed concurrently with MCO 593, is to open the same land to new mineral entry on the exact date that MCO 593 expires.

A land lease has been issued to Alyeska Resort encompassing approximately 1,180 acres in the southern portion of the area included within Mineral Closing Order 593/Opening Order 603. The leased area represents the most significantly occupied surface uses and presents the most potential for conflicts between the surface users and potential subsurface users. This amendment assures that the land within the leased area remains closed to new mineral entry.

It is my finding that the best interest of the state and that of the lessee are best served by having the land within the Alyeska Resort Lease (ADL 226089), as described in Mineral Opening Order No. 603, Amendment No. 2, remain closed to entry under the locatable mineral and mining laws of the State of Alaska: Mineral Opening Order No. 603, Amendment No. 2.



Harry A. Noah, Commissioner
Department of Natural Resources



Date

MINERAL OPENING ORDER NO. 603
AMENDMENT NO. 2

ATTACHMENT A

Mineral Opening Order (MOO) No. 603, Amendment No. 2, excludes a portion of the approximately 8,000 acres within MOO 603, executed on April 17, 1991. MOO 603 provides for opening to new mineral entry all of the same land closed under Mineral Closing Order (MCO) No. 593 on the date that MCO 593 expires. Expiration of MCO 593 would occur if within the ten-year period after the State of Alaska receives conveyance of the land by tentative approval or patent, a lease has not been issued by the state for the development of a ski resort.

A land lease for approximately 1,180 acres has been issued to Alyeska Resort (ADL 226089). This represents a relatively small portion of the total area included within Mineral Closing Order 593/Opening Order 603. To assure that land within the land lease is not opened to mineral entry, Mineral Opening Order 603, Amendment No. 2, excludes those lands from Mineral Opening Order No. 603. The leased area represents what is considered to be the most significantly occupied by surface uses. Potential conflicts between the surface users and potential subsurface users could result in serious conflicts.

LEGAL DESCRIPTION:

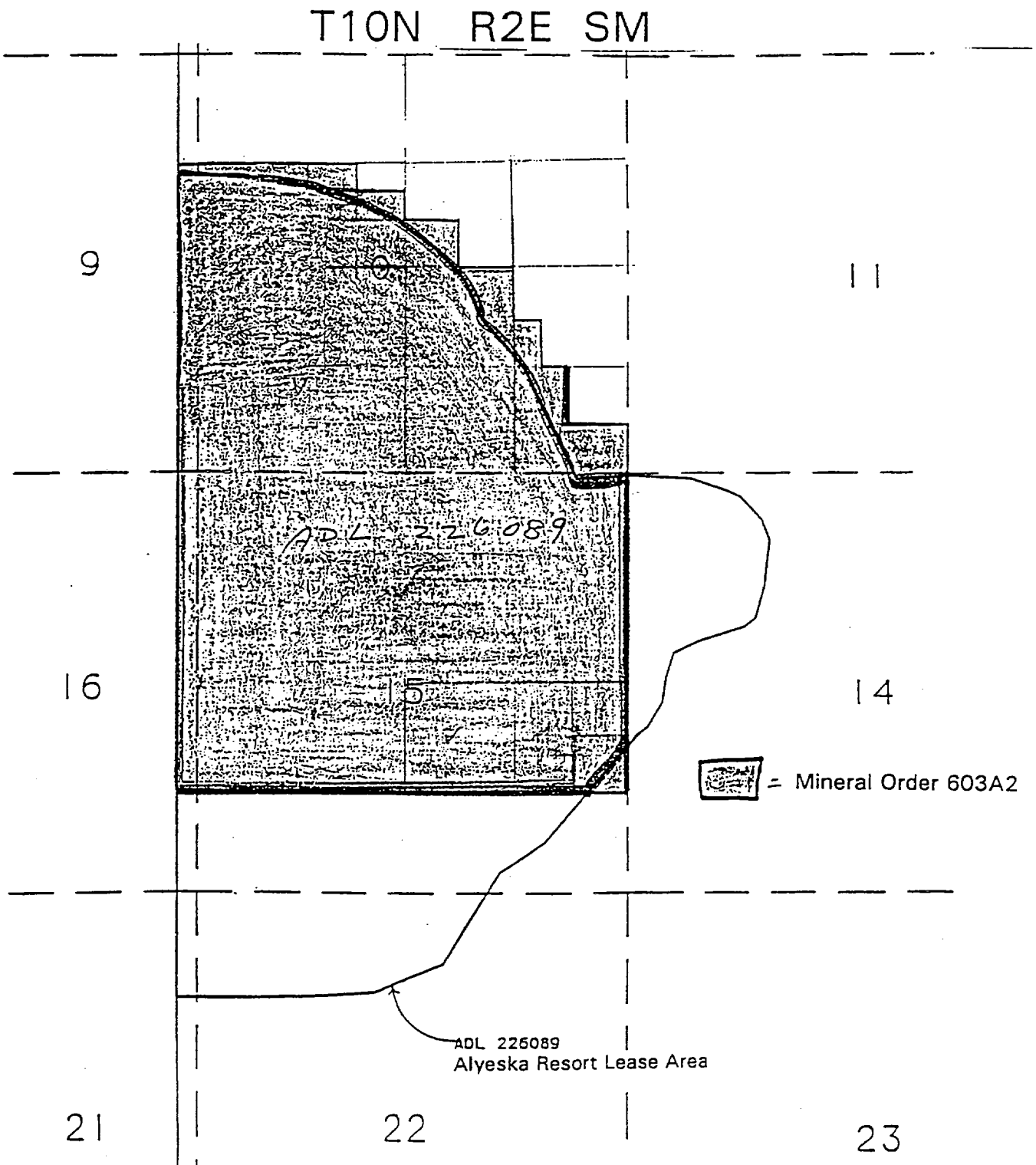
SEWARD MERIDIAN

Township 10 North, Range 2 East

- Section 09: $E\frac{1}{2}SE\frac{1}{4}$, $E\frac{1}{2}SE\frac{1}{4}NE\frac{1}{4}$ within the Chugach National Forest
- Section 10: $SW\frac{1}{4}NW\frac{1}{4}$, $S\frac{1}{2}SE\frac{1}{4}NW\frac{1}{4}$, $NW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$,
 $S\frac{1}{2}NE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$, $SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}$, $SW\frac{1}{4}$, $W\frac{1}{2}SE\frac{1}{4}$,
 $W\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}$, $SE\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$, $W\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}SE\frac{1}{4}$
- Section 15: $N\frac{1}{2}$, $N\frac{1}{2}S\frac{1}{2}$
- Section 16: $E\frac{1}{2}NE\frac{1}{4}$, $NE\frac{1}{4}SE\frac{1}{4}$ within the Chugach National Forest

Totaling approximately 1,060 acres

Attachment A
Mineral Order 603A2



MINERAL ORDER 710

I. Name TURNAGAIN ARM SMALL PARCELS

Area Plan: _____ Dated _____

Management Plan: TURNAGAIN ARM Dated 10/28/94

Site Specific Plan: _____ Dated _____

Other: _____ Dated: _____

IV. This order is subject to valid existing rights and issued under the authority granted by AS 38.05.185 - 38.05.275 to the Department of Natural Resources. The above described lands are hereby *** closed ___ opened to entry under the locatable mineral and mining laws of the State of Alaska.

***** See Attachment A.**

Concur:

Don Stone

10/28/94

Director
Division of Land

Date _____

Concur:


Miss Austin

10/28/96

Director
Division of Mining & Water Management

'Date'

Approved:

Division of Mining & Water Ma

Commissioner

10/28/94

Effective Date

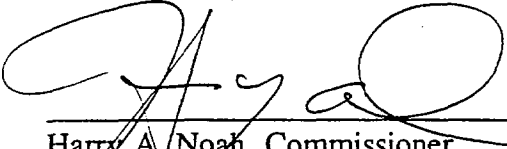
**FINDING OF THE COMMISSIONER
MINERAL CLOSING ORDER NO. 710
AS 38.05.185(a)**

The Turnagain Arm Management Plan (TAMP), developed in accordance with AS 38.04.065, identifies six parcels of land to be closed to new mineral entry. They are located in proximity to McHugh, Rainbow, and Bird Creeks and the Seward Highway. The parcels are all recommended to be legislatively added to Chugach State Park. They are presently managed by the Division of Parks & Outdoor Recreation (DPOR) under administrative actions, and are either adjacent to, or surrounded by the Chugach State Park.

Mineral location and mining is considered to be incompatible with the significant surface uses of the subject parcels. Any mining activity on the parcels would have a detrimental impact on the recreational and scenic values that make them valuable additions to the Chugach State Park. The Division of Land is committed to take all reasonable actions necessary to preclude the creation of any new third-party interests in the parcels, including mining claims and leasehold locations. Closing the land to mineral entry will prevent possible conflicts between the surface and potential subsurface users and will avoid the creation of encumbrances by third-party interests.

This mineral closing action has been public noticed through the TAMP planning process.

It is my finding that the best interest of the state is served by closing the land described in Mineral Closing Order No. 710 to entry under the locatable mineral and mining laws of the State of Alaska: Mineral Closing Order No. 710.



Harry A. Noah, Commissioner
Department of Natural Resources



Date

MINERAL CLOSING ORDER NO. 710

ATTACHMENT A

LEGAL DESCRIPTION

SEWARD MERIDIAN

Township 10 North, Range 1 West

Section 9: Lot 1 of USS 3680

Township 11 North, Range 2 West

Section 20: Lot 2 of USS 4909

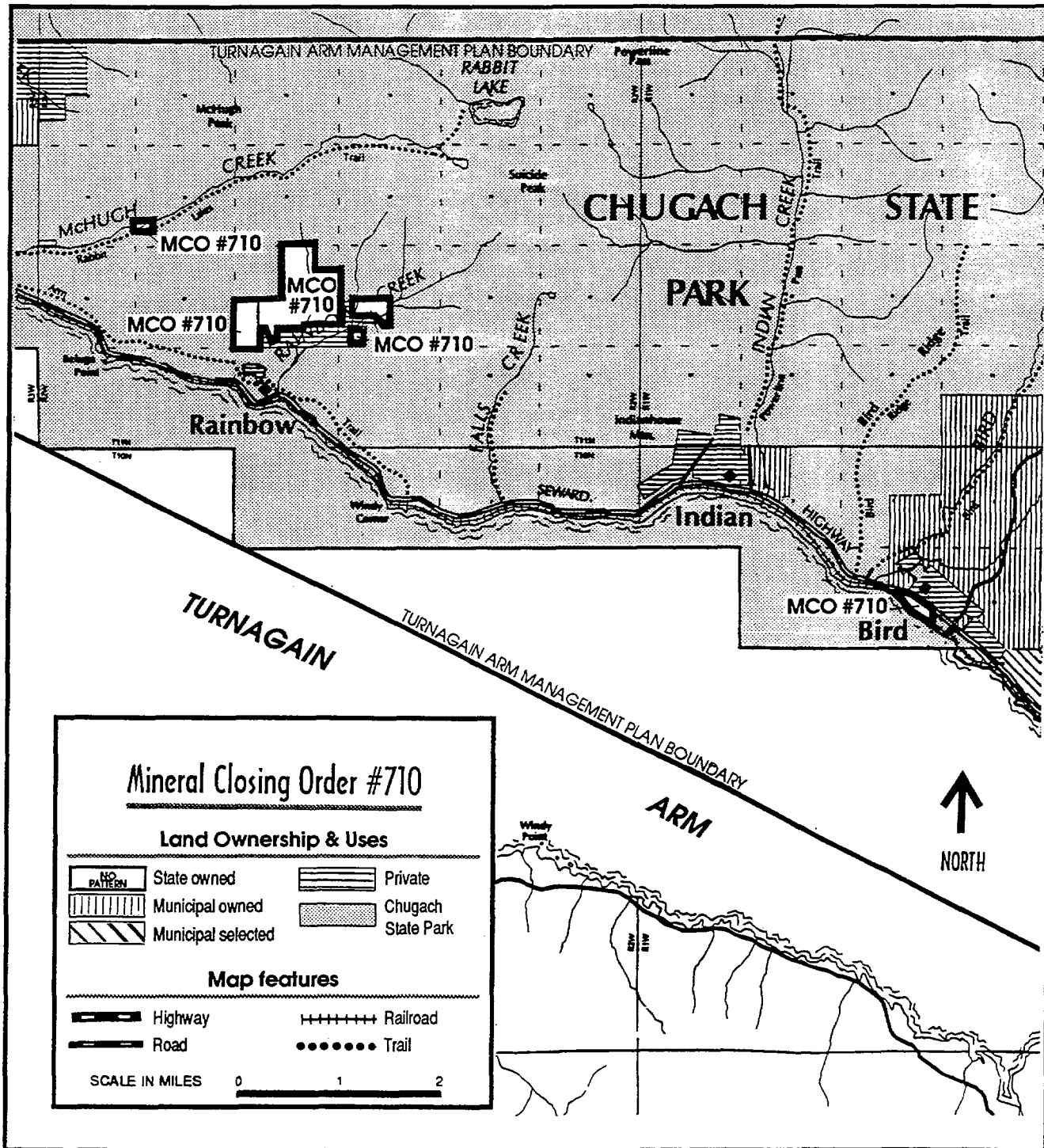
Section 27: Parcel 2 of OSL 888
Parcel 3 of OSL 888

Section 28: Parcel 1 of OSL 888
OSL 886, W $\frac{1}{2}$ SW $\frac{1}{4}$

Totaling Approximately 433.00 acres

Mineral Closing Order #710

in West Turnagain Arm



ORIGINAL

U.S. SURVEY
No. 4909, ALASKA

embracing

LOTS 1 and 2 INCLUSIVE

SITUATED

ON NICHOLS CREEK

ADJOINING THE EAST BOUNDARY OF SECTION 24,

T. 11 S., R. 3 W., SEWARD MERIDIAN

APPROXIMATE GEOGRAPHIC POSITION

OF CORNER NO. 1, LOT 1

LATITUDE $61^{\circ} 01.3'$ NORTH, LONGITUDE $149^{\circ} 43.1'$ WEST

AREA: 10.00 ACRES

SURVEYED BY:

ROBERT E. RYATT, SUPERVISORY CADASTRAL SURVEYOR

MAY 15 THROUGH MAY 23, 1967

Under Special Instructions

Dated April 15, 1966

Approved April 19, 1966

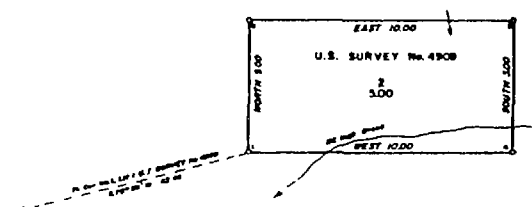
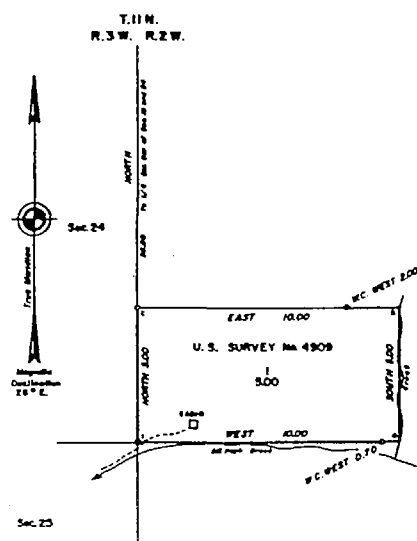
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Washington, D. C. March 6, 1969

This plat is strictly conformable to the approved field notes, and the survey, having been correctly executed in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

Clark I. Gamm

Chief, Division of Cadastral Survey



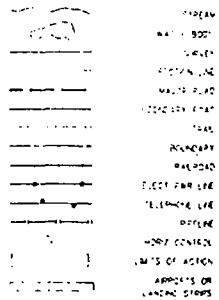
SCALE IN CHAINS

BRASS CAPPED IRON POST

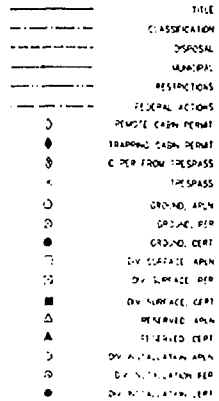
Turnagain Arm Management Plan

1994年 8月 15日 星期一 11:15 AM

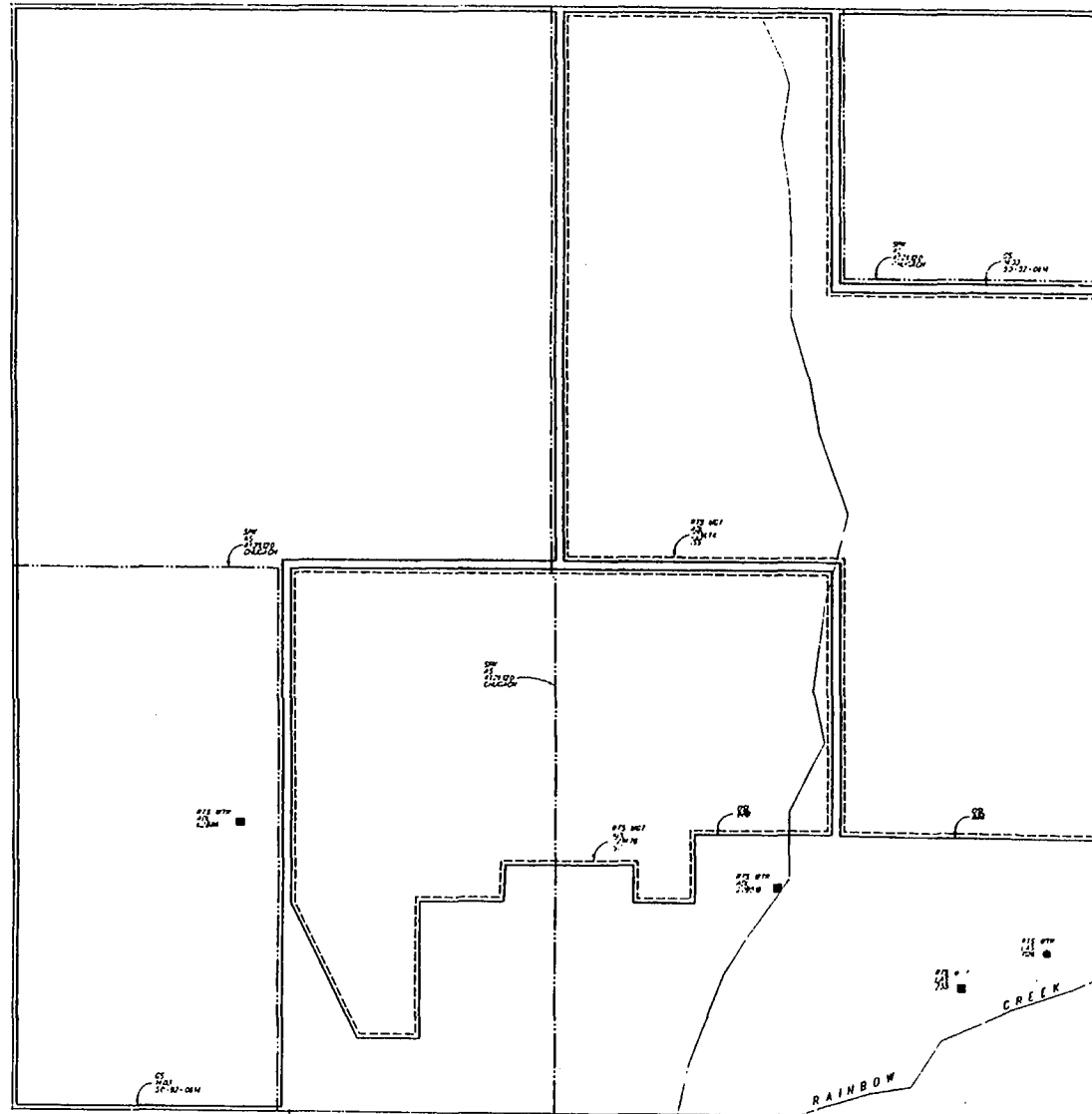
BASE INFORMATION



STATUS INFORMATION



SECTION NUMBERING GRID



SCALE

[illegible]

OTHER ACTIONS AFFECTING DISPOSAL OR USE
OF STATE LANDS
EXEMPT FROM MUNICIPALITY OF ANCHORAGE
CS MILE 10.00-10.00 AS PER PARTS OF SURVEY 1000000
C/O/1000 OF 10, 1000, 1000, 1000 (0/0/0) AND 0/0/0/000

A PRODUCT OF THE

• • • • •

[illegible]

2020 年 4 月 25 日 星期五

PLATE 1. *Continued*

SEC 28

50

TWP 19.

SEC 27 TOWNSHIP 11N RANGE 2W OF THE SEWARD MERIDIAN, ALASKA

LEGEND

BASE INFORMATION

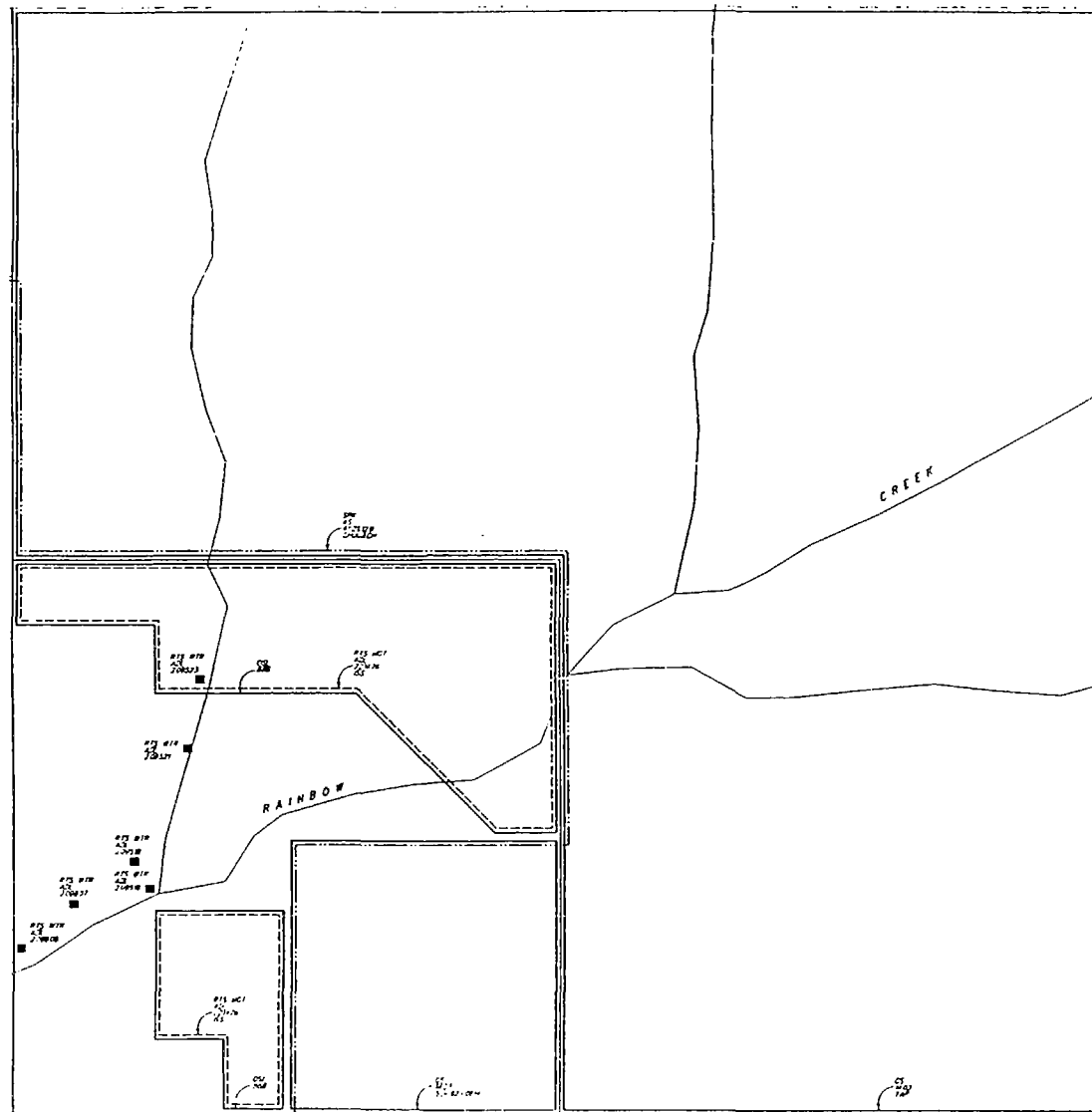
- STREAM
 WATER BODY
 CULVERT
 SECTION LINE
 PRIVATE ROAD
 HIGHWAY ROAD
 TRAIL
 BOUNDARY
 RAILROAD
 LEFT EAR LINE
 TELEPHONE LINE
 FENCE LINE
 HORIZ. CONTROL
 LIMITS OF ACTION
 ACCESS OR LANDING STRIPS

STATUS INFORMATION

- TITLE
 CLASSIFICATION
 DISPOSAL
 MUNICIPAL
 RESTRICTIONS
 FEDERAL ACTIONS
 REMOTE CABIN PERMIT
 TRAPPING CABIN PERMIT
 C PER FROM TRESPASS
 TRESPASS
 GROUND APN
 GROUND PER
 GROUND CERT
 DV SURFACE APN
 DV SURFACE PER
 DV SURFACE CERT
 RESERVED APN
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SCALE

STATUS PLAT

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BASE

THE STATE OF ALASKA
 DEPARTMENT OF NATURAL RESOURCES
 DIVISION OF LAND MANAGEMENT
 1000 EAST 10TH AVENUE
 ANCHORAGE, ALASKA 99501

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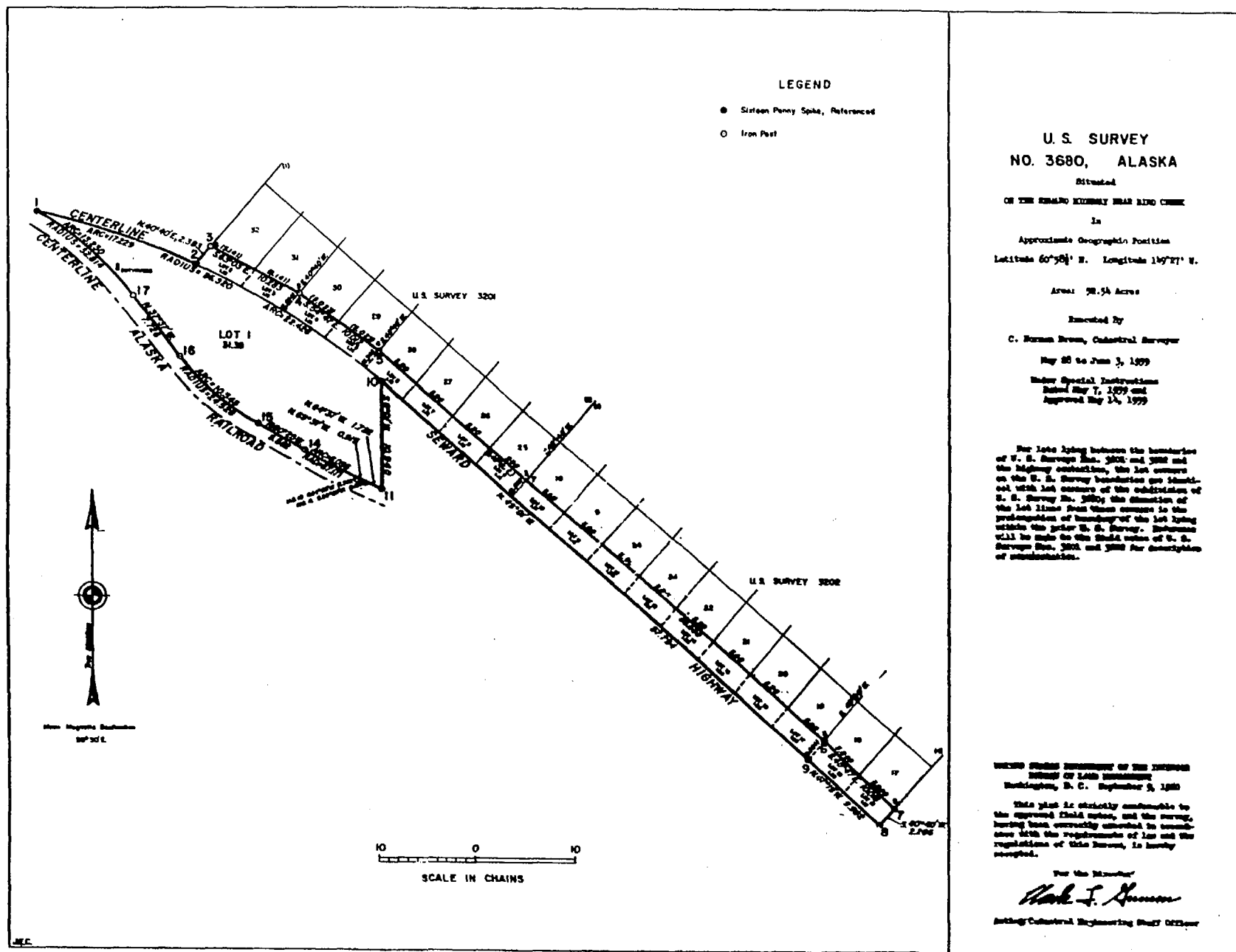
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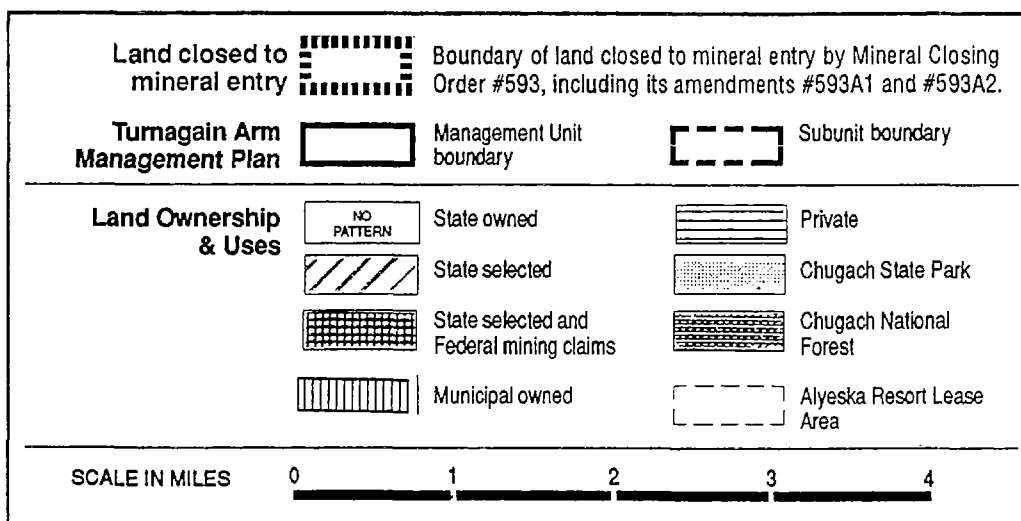
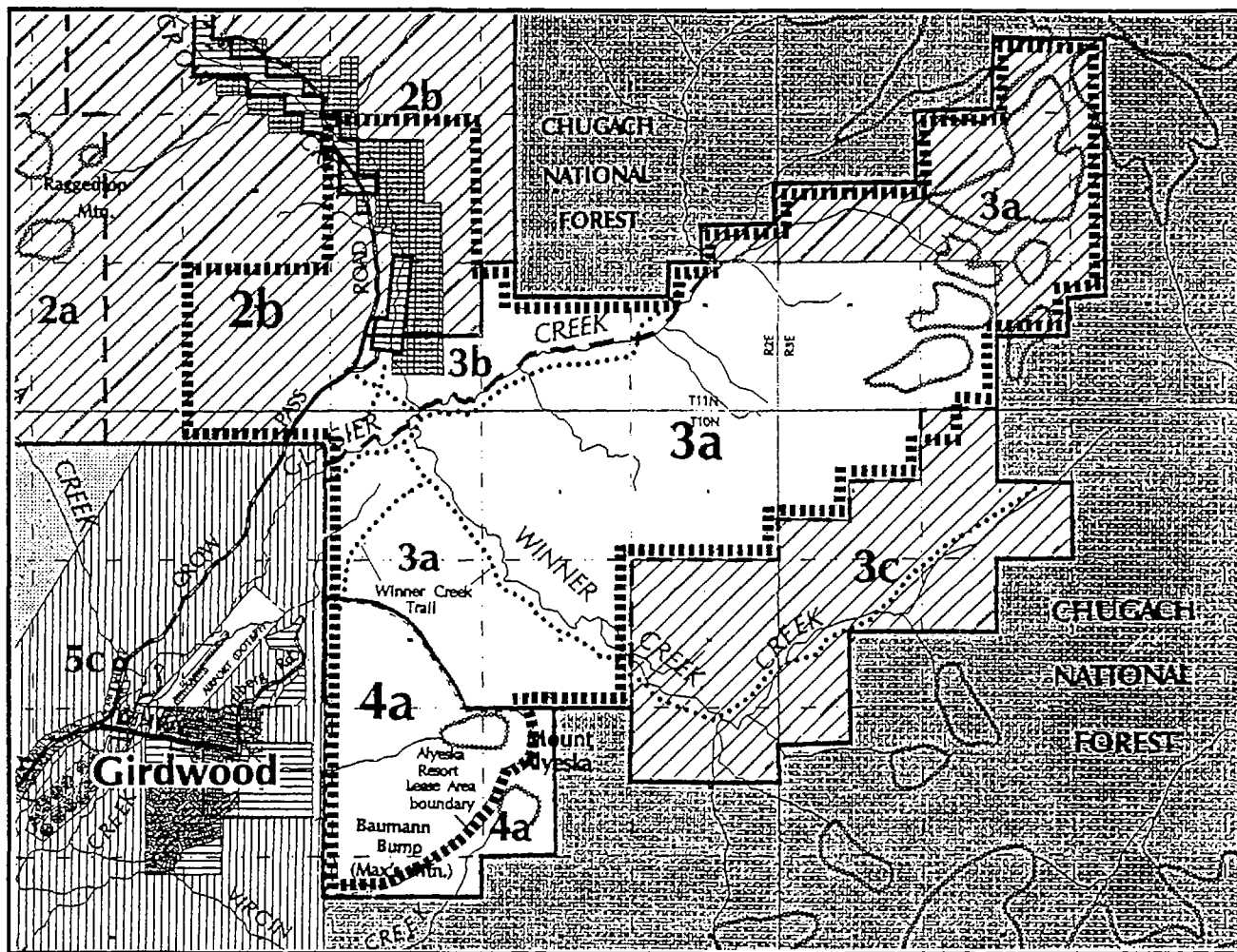
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Land Closed to Mineral Entry by Mineral Closing Order #593



Appendix C

RESORT DEVELOPMENT SUMMARY

This Appendix contains tables that summarize the resort development alternative that was the basis for developing the final Turnagain Arm Management Plan.

Table C-1 describes project components for the resort development alternative, and Table C-2 describes the alternative's economic factors. These two tables are from a study done for this planning process by Sno.engineering, Inc., titled Evaluation of Alternatives for Year-Round Resort Development in the Glacier/Winner Creek Area (April 1993).

Table C-3 shows estimated total employment and population in Girdwood, both current and projected, for the resort development alternative. This table is from a study done by Kevin Waring Associates, titled Girdwood Community Impact Study, (August 1993).

TABLE C-1

Project Components for Ski Development under Sno.engineering's Alternative 2

PROJECT COMPONENTS	ALTERNATIVE 2
GENERAL COMMENTS CONCERNING GIRDWOOD/ALYESKA	
Overview	Small ski area/resort village complements offerings at Alyeska/Girdwood Capacity approx. equal to Alyeska potential
ALPINE SKIING	
Developed Ski Facility	Full Service Ski Facility
Skier Capacity	3,000 - 5,000 skiers
Lifts	Potential gondola and approx. 6 chairs
Acres of Terrain	approx. 1,100 acres needed
Total Vertical Rise	2,635 feet
Glacier Skiing	None
Guided Skiing	Located on approx. 2,200 acres
Controlled Access Skiing	approx. 450 acres of powder skiing
Snowcat Skiing Operation	Portion of mountain dedicated to snowcat skiing
Skier Capacity	10 - 12 skiers per day
Acres of Terrain	2,200 acres provided

TABLE C-2**Economic Factors for Resort Development under
Sno.engineering's Alternative 2**

ECONOMIC FACTORS	ALTERNATIVE 2
1. Skier Capacity/Day	4,000 skiers
2. Skier Visits (Winter)	172,000
a. Local	86,000
b. Destination	86,000
3. Summer Visitors (Total)	160,000
a. Skier Visits	NA
b. Tourist/Day Visits	160,000
4. Capital Cost of Ski Facility	\$44,000,000
5. Commercial Lodging Rooms	500
6. Capital Cost of Resort Improvements	\$100,000,000
7. Annual Revenues from Resort Operations	\$38,200,000
a. Winter Revenues	\$21,800,000
b. Summer Revenues	\$16,400,000
8. Maximum Employees (FTEs)	700
a. Ski Area	190
b. Non-Ski Area	510
9. Water Use and Sewage Disposal (Peak Volumes in gpd)	189,000

TABLE C-3

**Estimated Total Employment and Population
under Sno.engineering's Alternative 2**

ESTIMATE	ACTUAL 1993	ALTERNATIVE 2
Total Employment	610	2,083
Resort	300	1,000
Non-resort	310	1,083
Total Population	3,305	8,175
Resident	1,350	3,300
Visitor	1,880	4,875
Overnight	805	2,315
Daytime	1,075	2,560

Appendix D

Publications Related to the Plan

A Socioeconomic Assessment of the Effects of Developing a Winter-Sports Site at One of Three Locations in the Chugach National Forest. U.S. Forest Service. October 1984.

Demand and Opportunities for Alpine Skiing on the Anchorage District Chugach National Forest Alaska Region. U.S. Forest Service. October 1982.

Evaluation of Alternatives for Year-Round Resort Development in the Glacier/Winner Creek Area. Sno.engineering Inc. April 1993.

Girdwood Area Plan. Municipality of Anchorage Department of Community Planning and Development, February 1995.

Girdwood Community Impact Study. Municipality of Anchorage Department of Community Planning and Development, August 1993.

Girdwood Rail Service Feasibility Assessment. Municipality of Anchorage Department of Community Planning and Development, February, 1994.

Glacier Valley Concept Plan. Municipality of Anchorage Department of Community Planning and Development, April 1990.

Preliminary Water Resource Assessment of the Girdwood Area, Alaska. DNR Division of Mining and Water Management, September, 1994.

Snow Avalanche & Mass Wasting Hazard Analysis -Glacier/Winner Creek Area, Alaska. Municipality of Anchorage Department of Community Planning and Development, August 1993.

Turnagain Arm Management Plan/Turnagain Arm Comprehensive Plan - Public Comments on Issues. DNR Division of Land, June 1992.

Turnagain Arm Management Plan/Turnagain Arm Comprehensive Plan - Alternatives Brochure. DNR Division of Land, August, 1993.

Turnagain Arm Management Plan/Turnagain Arm Comprehensive Plan - Public Comments on Alternatives. DNR Division of Land, September, 1993.

Turnagain Arm Management Plan - Public Review Draft Responses to Comments. DNR Division of Land, November, 1994.

Note: Information on other resources, including fish and wildlife, minerals, and historic resources is available in the project files located in the Anchorage office of the Division of Land.

Appendix E

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